2,000th Issue

**INFO HUNTERS**
Microsoft, IBM develop new enterprise search capabilities.

**BEYOND THE ROUTINE**
Bruce A. Stewart has advice for IT pros who want to get past the daily grind and innovate. [illegible]

# COMPUTERWORLD®

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## THE CW2K Issue

SPECIAL REPORT

**Computerworld's 2,000th edition features:**

- **Top IT trends** since our 1,000th issue in 1986
- **IT surprises and disappointments** of longtime readers
- **How memory prices have changed** since our first issue in 1967

PAGE 6

# Java Users Wary Of Fragmentation

## Sun outlines open-source strategy but provides no details

**BY PATRICK THIBODEAU AND HEATHER HAVENSTEIN**

SAN FRANCISCO

The applause that greeted Sun Microsystems Inc. officials last week when they said the company will offer Java to the open-source community turned to concern as some users fretted over whether the programming language will split into multiple versions.

Sun executives confirmed the long-anticipated open-source move during the JavaOne conference here last week, although they said they still need to devise a detailed plan to ensure that Java isn't put on diverging paths.

Java consistency is essential to David Holberton, a J2EE developer at a large aerospace company he asked not be named. Currently, the versions of the Java Virtual Machine the company's J2EE applications run on are consistent, Holberton said.

An open-source Java implementation "opens up innovation, but I'm concerned about fragmentation," he said. Nonetheless, Holberton added that he's "fairly confident" Sun can avoid any splitting of the code, citing the company's longtime efforts to ensure a consistent development environment.

Several other users, including Haroon Rafique, a systems developer at the University of Toronto, also expressed concern that Java could head down different paths once developers get access to the source code under whatever open-source plan Sun devises.

*Java, page 16*

**INSIDE**

**Richard Green,** Sun's software VP, says he doesn't expect anything to derail the open-source plan. **PAGE 16**

**Frankly Speaking:** Java is dying, but open-sourcing the technology may revive it, says Frank Hayes. **PAGE 66**

# SAP's NetWeaver Strategy Fails to Reassure All Users

## Some worry that the technology will raise costs at large, multivendor sites

**BY MARC L. SONGINI**

ORLANDO

Several users expressed uncertainty about SAP AG's NetWeaver software suite at the Sapphire user conference here last week, even as the vendor heavily promoted the technology during the event.

NetWeaver is a Web-based integration and application platform that includes portal, data warehouse and other software components. It will be a key technology in most future SAP products, including the new mySAP ERP 2005 software that started shipping last week.

Some SAP users interviewed last week complained that the

*NetWeaver, page 64*

**BUYING POWER**

**Infor agrees to acquire SSA,** a deal that would make it the third-largest vendor of business applications behind SAP and Oracle. **PAGE 14**

# Dell Yields on Opteron After Rivals Gain

## Weak Q1 prompts holdout to adopt AMD's server chip

**BY BEN AMES AND TODD R. WEISS**

Dell Inc. finally gave in last week and said it would start selling Opteron-based servers, a surprise move driven by a combination of lackluster first-quarter results and unexpectedly strong competition.

Dell was the sole Opteron holdout among the top server vendors, having long resisted calls to abandon its Intel-only approach and adopt Advanced Micro Devices Inc.'s processor. But now Dell plans to use the AMD chip in a line of high-end multiprocessors that is due to ship by year's end.

*Dell Opteron, page 64*

NEWSPAPER

[1] Based on published power usage data available from both companies, the IBM LS20 BladeCenter with 2x2.4GHz Dual-Core processors, 8GB of memory, 2 36GB SCSI HDDs, dual Ethernet, dual Fibre Channel can use up to 37% less power than the HP BL25p with 2.4GHz dual-core processors, 8GB of memory, 2 36GB SCSI HDDs, dual Ethernet, dual Fibre Channel. Analysis performed on April 10, 2006. IBM, the IBM logo, BladeCenter, and Take Back Control are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Intel, Intel Inside, the Intel Inside logo, and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and/or other countries. Other company, product, and service names may be trademarks or service marks of others. ©2006 IBM Corporation. All rights reserved.

intel
Xeon
inside

_THE INVASION

_DAY 16: These servers are so hot, we're running the AC at full blast, and the thermometer is still pushing 140°. Had to relax the dress code in the server room. No choice. It's towels and flip-flops until we get this heat problem under control.

_Gil says he's lost a lot of weight. I hadn't noticed.

_DAY 17: I found a cooler answer to our heat problem: the IBM BladeCenter® with Intel® Xeon® Processors reduces the overall amount of power required by the system. The BladeCenter is designed to respond automatically to power events and can use up to 37% less energy[1]. Less power. Less heat. Less money. Less stress.

_Oh, apparently HR had a problem with the dress code but couldn't call and tell us, since the phones had melted.

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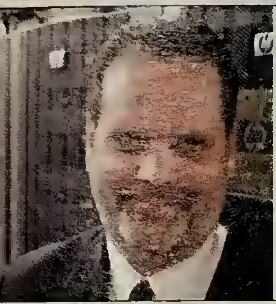
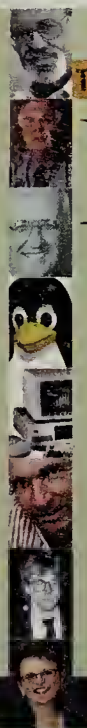


## The 64-bit Evolution

**In the Technology section:** Users such as Detroit Medical Center's Eric Foote are taking cautious steps toward a 64-bit computing environment but are in no hurry to switch from 32-bit. **Page 26**

## Weighting the Risks

**In the Management section:** Like all smart investors, high-performing companies know how to balance high-, medium- and low-risk projects in their portfolios. But most IT organizations still lack the skills and maturity to take a portfolio view of project risk. **Page 45**



## THE CW2K Issue SPECIAL REPORT

**A LOOK BACK: To commemorate the 2,000th issue of *Computerworld*, we identify the top 10 developments in IT since we published our 1,000th issue in 1986. Plus, five longtime *Computerworld* readers discuss the biggest changes they've seen in IT in the past 20 years, along with their disappointments.**

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There's Someone at the DOOR.
NOT NOW, I'M BURNING MONEY.
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TRADITIONAL SOFTWARE VENDOR

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42 **Curt A. Monash** fills us in on new developments in database management.

59 **Barbara Gomolski** wonders if we're doing so many things at once that we do none of them well.

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## Privacy Update

**IT MANAGEMENT:** Jay Cline looks at recent developments around the world in the area of data privacy.
**www.computerworld.com/itmanagement**

## Failure Prevention

**NETWORKING:** Expert Howard Berkowitz wraps up his series on recognizing and preventing network failures with an in-depth look at application layers.
**www.computerworld.com/networking**

## Open's Not Always the Answer

**STORAGE:** With all the hassles of trying to make a heterogeneous storage-area network work, a proprietary architecture looks pretty good, columnist Jerome Wendt writes.
**www.computerworld.com/storage**

## Rogue's Gallery

**SECURITY:** Columnist Jon Espenschied takes a wary look at several species of contractor he hopes you never encounter.
**www.computerworld.com/security**

## Security Blogs

**BLOGS:** Every weekday, visit *Computerworld.com* to catch up on the latest observations of network security professionals C.J. Kelly, Martin McKeay and Douglas Schweitzer (left).
**www.computerworld.com/blogs/security**

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# THE TOP 10 IT Developments of the PAST 20 YEARS

## The **Internet**, the **PC** and **Y2k** have been hot topics; **software bugs** and **security** remain problems

*Computerworld published a 455-page edition on Nov. 3, 1986, to commemorate its 1,000th issue and the 40th anniversary of electronic computing. What's happened since then? Here, in* Computerworld's *2,000th issue, we look at the 10 biggest IT happenings chronicled in our pages over the past 20 years.*

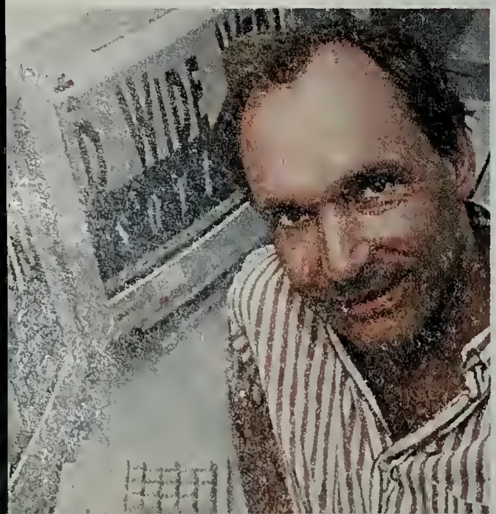
### THE INTERNET GOES COMMERCIAL

The Internet scene in the mid-1980s was dominated by discussions of acceptable-use policies, through which government and academic users sought to restrict Internet access to, well, government and academic users. Unacceptable uses of the Internet, such as porn and spam, hadn't been thought of yet; in those days, "unacceptable" meant commercial. Today, billions of dollars in transactions flow through the Net every month.

Fortunately, *Computerworld* never ran a story with the headline, "Al Gore Invents Internet." The real inventors wrote a seminal report for the National Research Council in 1988 titled "Towards a National Research Network," which spurred the development of interconnecting high-speed networks and encouraged IT vendors to build TCP/IP into their products. In 1989, Tim Berners-Lee wrote a paper describing "a distributed hypertext system," which would become the World Wide Web.

E-commerce became an obsession when the dot-com bubble started to inflate in 1997. Even after the bubble popped in 2000, however, corporate enthusiasm for the Internet hardly slowed. Today, some of the hottest ideas in computerdom — Web services, VoIP, service-oriented architectures and utility computing — are grounded in the Internet.

Web creator Tim Berners-Lee



### MONOPOLY MUSICAL CHAIRS

IBM dominated computing until the late 1980s. But its 1981 release of the IBM PC and the acceptance of PC clones, which were packed with Microsoft Corp.'s software, created a desktop computing market that changed the face of IT and put Microsoft at the center of power in the industry. Software developers flocked to DOS, and later Windows, to create thousands of applications, helping propel Microsoft's desktop operating system market share to more than 90% in the 1990s.

The government's concern about a Microsoft monopoly started with a 1991 investigation and culminated in 2000, when a federal district court judge found the company guilty of violating the Sherman Antitrust Act. Microsoft now faces threats from Linux, Google and Europe's antitrust regulators.

The IBM PC

### THE Y2k 'PROBLEM'

Nowadays, when you're prompted to enter a date, you'll see something like "mm/dd/yyyy." Quite an innovation, that four-digit year.

The first printed mention of a Y2k Armageddon was made in *Computerworld* in 1984. In 1993, we printed Peter de Jager's estimate that Y2k repairs would cost $100 billion. As hysteria mounted, cost estimates soared to close to $1 trillion.

On Jan. 2, 2000, the whole thing was seen as a bad dream and promptly forgotten. IBM said the average large company spent up to 400 man-years on the problem. Was that effort wasted? No — how else could we have justified scrapping those old Cobol systems?

### THE NEW FOREIGN FACE OF OUTSOURCING

The practice of IT outsourcing stretches back to 1949 with ADP's mission to be the payroll service for the world. In 1962, Ross Perot started Electronic Data Systems Corp. to be a general-purpose IT outsourcing shop. And when Lou Gerstner took over IBM in 1993, his turnaround strategy was largely based on pushing IBM's outsourcing services.

But outsourcing became a contentious labor and political issue early this century when U.S. corporations stepped up sending IT work offshore during an economic downturn. India's offshoring revenues in fiscal 2005 skyrocketed 34.5% to $17.2 billion, with more than 1 million Indian IT workers serving overseas customers.

### THE RISE OF PERSONAL COMPUTING

"The concept of 'a PC on every desk' has gone from being a gleam in the bespectacled eyes of a young Bill Gates to a near campaign promise by H. Ross Perot," *Computerworld* wrote in 1992. But then we went on to suggest that the real impact of personal computing wouldn't be felt until well into the next millennium.

The proliferation of the desktop *computer* happened much faster than that, of course, as did the rise of personal *computing* — via laptops, PDAs, cell phones and other devices. Personal computing is just one dimension of the epochal movement of computing away from centralized mainframes to client/server computing, multitier distributed computing, grids and more.

But unlike the emergence of the minicomputer and the server, the rise of the PC had special meaning for IT man-

**NUMBER OF COUNTRIES WITH *COMPUTERWORLD* EDITIONS**

| | |
|---|---|
| 1967 | 1 |
| 1986 | 15 |
| 2006 | 42 |

**NUMBER OF COMPUTERS IN USE**

| | |
|---|---|
| 1967 | Fewer than 90,000 |
| 1986 | More than 30 million |
| 2006 | More than 1 billion |

**GASOLINE PRICES, PER GALLON (REGULAR)**

| | ACTUAL DOLLARS | 2006 DOLLARS |
|---|---|---|
| 1967 | 31 cents | $1.87 |
| 1986 | 93 cents | $1.68 |
| 2006 | $2.90 | $2.90 |

**MEMORY PRICES**

| | ACTUAL DOLLARS | 2006 DOLLARS | PER MB, 2006 DOLLARS |
|---|---|---|---|
| 1967 | 4 cents/bit | 24 cents/bit | $2 million/MB |
| 1986 | $2.50/256Kbit | $4.50/256Kbit | $144/MB |
| 2006 | $28/256MB | $28/256MB | 11 cents/MB |

agers: It meant they were no longer in control. That Lotus 1-2-3 spreadsheet user was *programming*, whether the IT shop liked it or not.

### OPEN-SOURCE RIDES INTO DATA CENTERS

The emergence of open-source software predates Linux. Sendmail, originally written in 1983 for Unix, was the first open-source program to be widely adopted by IT departments. Today, it transfers about 70% of the Internet's e-mail.

In 1996, the open-source Apache project had become the most popular Web server software on the Internet; by last month, Apache was running more than 80 million sites, for a 62% market share. However, with IBM backing Linux, followed by Hewlett-Packard, Oracle and others, Linux has become the face of open-source. Today, the operating system's share of the server market is close to 30%.

The Linux penguin

### SECURITY: FROM NUISANCE TO ALL-OUT ASSAULT

In 1988, Robert Morris' worm crippled 6,000 machines on the Internet. Today's Web-tethered companies have built defenses that would have stopped the primitive Morris worm in its tracks.

However, the relentless attacks on IT's security barriers are no longer spearheaded by troublemakers like Morris or famed hacker Kevin Mitnick. Incursions now come from organized criminals using sophisticated tools to steal information for blackmail, corporate espionage or identity-theft schemes. Last year, the FBI reported that 95% of companies it surveyed had seen their network perimeters battered by online criminals.

Worm writer Robert Morris Jr.

Privacy concerns have spawned numerous IT-related regulations, moving information security from a separate practice to a central but seemingly unsolvable part of information management.

### THE RISE OF CLIENT/SERVER COMPUTING

Client/server computing, one of the biggest IT topics of the 1980s and 1990s, has followed a familiar path for technology: from hype, to disillusionment, to maturity, to decline.

*Computerworld*'s Jan. 1, 1990, Forecast issue said: "Get ready for a teeth-gnashing, roller-coaster decade as users make a painful transition to a networked, client/server computing environment." Indeed, early client/server rollouts were costly and unreliable.

In 1993, we quoted an IDC analyst saying, "Folks who went early into client/server development are 'strategically realigning.' That means they are in full retreat." The mainframe wasn't dead, after all.

But standards and tools evolved, and so did skills, and companies began to reap the advantages of client/server — scalability, flexibility and ease of application development.

More recently, developers have discovered that still more tiers can bring better performance, flexibility and scalability. Applications can be broken into presentation, business logic, data access and data storage layers, each residing where it works best. Stir in Web-based clients and Web services, and those advantages are magnified. Apparently, client/server was just a steppingstone.

### ELUSIVE SOFTWARE QUALITY

Since the 1980s, a profusion of development methodologies have gained and lost favor. Computer-aided software engineering, object-oriented programming, the Capability Maturity Model, extreme programming and other ideas have each been touted as the next most promising way to build high-quality software.

The results have been mixed. In 2004, the Standish Group estimated that 18% of IT development projects were canceled, down from 31% in 1994. However, "challenged projects," ones that failed in part, held steady at 53% over the decade. Even the vaunted peer-group quality-control system of open-source can produce bad code. Research funded by the U.S. Department of Homeland Security found that Linux 2.6 had over 68,000 lines of flawed code.

### THE GEEKS GO TO BUSINESS SCHOOL

First you were manager of data processing, then director of MIS, then CIO. Over the years, the focus of IT managers shifted from running payroll systems to automating management information to optimizing business processes.

As the CIO emerged in the 1980s, IT managers were advised to "align IT with the business," "think strategically" and "get a seat at the business (or boardroom) table."

Many CIOs have done just that. But that's not the end. Some of the pundits in *Computerworld*'s "Future of IT" stories a year ago predicted that IT managers as we know them today will eventually disappear, subsumed into the ranks of general business management.

– GARY ANTHES AND MARK HALL

**EDITOR:** Mitch Betts
**DESIGNER:** Stephanie Faucher
**CONTRIBUTORS:** Gary Anthes, Mark Hall, Frank Hayes, Gussie Wilson

## LONGTIME READERS Look Back

### MARTIN A. GOETZ

**CAREER:** A founder (in 1959) and former president of Applied Data Research Inc., the first company to sell a software product commercially.

**BIG CHANGES:** The integration of the PC, and the Internet, into corporate applications; offshore outsourcing.

**SURPRISES:** The growing acceptance of open-source software, developed by volunteers; the speed and accuracy of a Google search.

**DISAPPOINTMENT:** The demise of fourth-generation languages, which would have permitted speedier programming but didn't catch on.

### IRENE DEC

**CAREER:** Former Y2k project manager and vice president of operations and systems at Prudential Financial Inc. Now vice president of international operating management at Prudential's international division.

**BIG CHANGES:** IT has to pay attention to Sarbanes-Oxley Act controls; security is now a requirement in application development; Web-enabled applications.

**DISAPPOINTMENT:** IT departments still need to build interfaces between software components because they aren't plug-and-play.

**THE FUTURE:** Offshore outsourcing and fewer U.S. computer science students will lead to an IT talent shortage in the U.S.

### MAX D. HOPPER

**CAREER:** Former CIO at Bank of America Corp., chairman of the Sabre Technology Group and senior vice president of information systems at American Airlines Inc.

**BIG CHANGE:** IT is being used for real-time data and business decisions.

**DISAPPOINTMENT:** Sarbanes-Oxley work and "boat anchor" legacy systems are hampering IT innovation.

**THE FUTURE:** CIOs will have to deal with new consumer gadgets that are entering the business world much like PCs did.

### PAUL M. INGEVALDSON

**CAREER:** Former programmer at Sears, Roebuck & Co. Joined Ace Hardware Corp. in 1979 as data processing manager and rose to senior vice president in charge of the international and technology divisions. Retired in 2004.

**BIG CHANGE:** IT has become commonplace in business and personal life, in contrast to the esoteric role of computers in the 1960s.

**DISAPPOINTMENT:** Many CIOs still report to chief financial officers, whose risk-averse nature means that IT innovation is stifled.

### RICHARD L. HUDSON

**CAREER:** Started IT work in 1964. Was CIO at Global Marine Inc. for 18 years.

**BIG CHANGES:** The Internet and computers have become mainstream technologies; the higher quality of CIOs today compared with the early 1990s.

**SURPRISE:** The extent of device miniaturization – BlackBerries, for example.

**DISAPPOINTMENT:** Even the brightest CIOs usually aren't considered for promotion to CEO.

– INTERVIEWS BY MITCH BETTS

## AT DEADLINE

### Symantec Suit Seeks To Halt Vista Work

**Symantec Corp. has asked a U.S. court to order a halt to the development of Windows Vista, claiming that Microsoft Corp. is illegally incorporating Veritas storage technology in its next-generation operating system. In its lawsuit, Symantec is seeking unspecified damages and demanding that its technology be removed from Windows XP, Windows Server 2003, Vista and the Longhorn server. Microsoft said that "these claims will be shown to be without merit."**

### PC, Printer Sales Lift Q2 Revenue at HP

**Hewlett-Packard Co. reported stronger-than-expected second-quarter earnings, mainly because of sales of high-margin PCs and printers.**

HP BY THE NUMBERS

| | REVENUE | PROFIT |
|---|---|---|
| Q2 '06 | $22.6B | $1.5B |
| Q2 '05 | $21.6B | $966M |

### ECMA Offers Draft Of Office Open XML

**European standards body ECMA International has published the first draft of the Office Open XML specification online, as Microsoft's proposed standard file format for office documents continues through the International Standards Organization's approval process. The draft comes two weeks after the ISO approved the rival Open Document Format for Office Applications.**

### Microsoft Buys Maker Of Security Tool

**Microsoft has agreed to buy Whale Communications Ltd. in Rosh Haayin, Israel, for an undisclosed sum. Whale sells a security appliance that lets employees access corporate applications while outside of a firewall. Microsoft plans to use the technology to add capabilities to its Internet Security and Acceleration Server product. The companies had started joint sales of the respective products earlier this year.**

# Microsoft Plays Catch-up In Search Tools Market

## Promises unified app for locating info on PCs, networks and the Web

BY ERIC LAI

MICROSOFT CORP. last week detailed plans for an expanded set of enterprise search tools that's designed to put the company on a more even footing with online search leader Google Inc., as well as with vendors such as IBM.

The centerpiece of the planned offering is Windows Live Search, a desktop application that binds together several previously separate search tools. Expected to be released in beta-test form this summer, Windows Live Search will enable users to simultaneously search their PCs, their corporate intranets and the Web for information, according to Microsoft officials.

That would save a worker who wants to find information in his Outlook e-mail directory, corporate databases, and ERP or CRM applications from having to search them one by one, said Jon Beighle, general manager of Microsoft's online services group.

Windows Live Search will leverage intranet search capabilities built into Office SharePoint Server 2007, an upgrade of Microsoft's collaboration and workflow manager that's expected to be released in October along with the rest of Office 2007. The search tool will also use indexes of data created by SharePoint to speed up the process of returning results, Beighle said.

The indexing feature will make the tool much more nimble than Microsoft's existing Windows Desktop Search software, Beighle said, adding that Desktop Search can take minutes to search a large disk drive on a PC.

The upcoming technology is a big step forward for Microsoft on search capabilities, said Mark Kruger, head SharePoint developer at Kaplan University in Fort Lauderdale, Fla.

Running multiple searches across different data sources "wastes time and money, and Microsoft has definitely gotten that message," Kruger said. "There's a reason why Google has been successful: People just find what they're looking for [with its tools]. Now Microsoft is making great strides to meet those high standards."

### Beyond Keywords

Bill Simser, a technology consultant in Calgary, Alberta, who focuses on SharePoint implementations, said he likes the way that SharePoint Server 2007 will use document metadata to create indexes for organizing information based on its relevance to other data.

With that capability, Windows Live Search users should get results that are aligned with specific concepts, not just documents that contain certain keywords, Simser said. "Google is search from an IT perspective," he said. "Microsoft is trying to do search from a business perspective."

### Data Hunt

**Microsoft said it is also developing the following search technologies:**

**KNOWLEDGE NETWORK FOR SHAREPOINT SERVER 2007**

- Free add-on software that creates job-related profiles of employees by mining keywords in their Outlook e-mails.
- Uses social network analysis to determine and map connections among co-workers.

**SHAREPOINT SERVER FOR SEARCH 2007**

- A subset of SharePoint that offers search capabilities to departments and midsize companies.
- Can search common repositories and be extended to other data sources via third-party or custom connectors.

But Bill English, co-owner of Mindsharp Inc., a SharePoint consulting firm in Maple Grove, Minn., said that even with the upcoming improvements, Microsoft will face a challenge in convincing users that its search technology is better than Google's.

"Google has all of the mind share in search," said English, who is also the author of several books about SharePoint. "Nobody thinks of Microsoft. Its biggest challenge is getting all of that mind share back."

Windows Live Search will compete against Google Desktop, which lets users search the content on their PCs as well as the Internet. Mountain View, Calif.-based Google also sells an enterprise search appliance that enables users to search corporate intranets. Other companies with an even more established presence in enterprise search include IBM, Autonomy Inc. and Fast Search & Transfer Inc. ▸

## New IBM Tool Combines Search, BI Functions

**IBM LAST WEEK** released a tool that combines enterprise search capabilities with business intelligence reporting and analysis functions.

The IBM WebSphere Content Discovery for Business Intelligence tool overcomes traditional limitations of both enterprise search engines and BI tools, said Marc Andrews, IBM's program director for information management strategy.

For example, he noted that search engines don't typically provide direct access to BI data and that BI tools usually can't tap into unstructured data such as Web pages and text-based documents.

BlueCross BlueShield of Tennessee Inc. has used the tool in a pilot project to provide access to unstructured data, including notes by call center workers about their interactions with client health care providers. Before using the tool, the company could not access the unstructured data it needed to combine with structured data in the data warehouse, said Frank Brooks, senior manager of data resource management and chief data architect at Chattanooga-based BlueCross.

With the tool, the company can build a single view of its health care provider clients, using both structured and unstructured data, Brooks said. The single screen holds health care provider claims information, the call center notes and other key data, he said. The combined system helps the insurer negotiate rates with health care providers, he added.

The tool also allows BlueCross "to pull comments about a provider and derive structured data from it," Brooks said. "Then we [can] analyze what kind of customer service calls people are taking, using our Cognos business intelligence tools. For the first time, we were able to analyze the service call patterns related to providers."

The tool also enables the insurance company to crawl external Web sites to find relevant data about health care providers, such as plans to build new facilities, Brooks said.

The company expects to begin using the tool in production next month, according to Brooks.

WebSphere Content Discovery for BI also provides users with ad hoc access to underlying BI data they can search without having to create a report, Andrews said. It also uses natural-language query-processing technology to interpret user needs based on a request for information, he said.

The goal is to enable users "to more easily directly navigate this BI data without having to create reports in advance," Andrews said.

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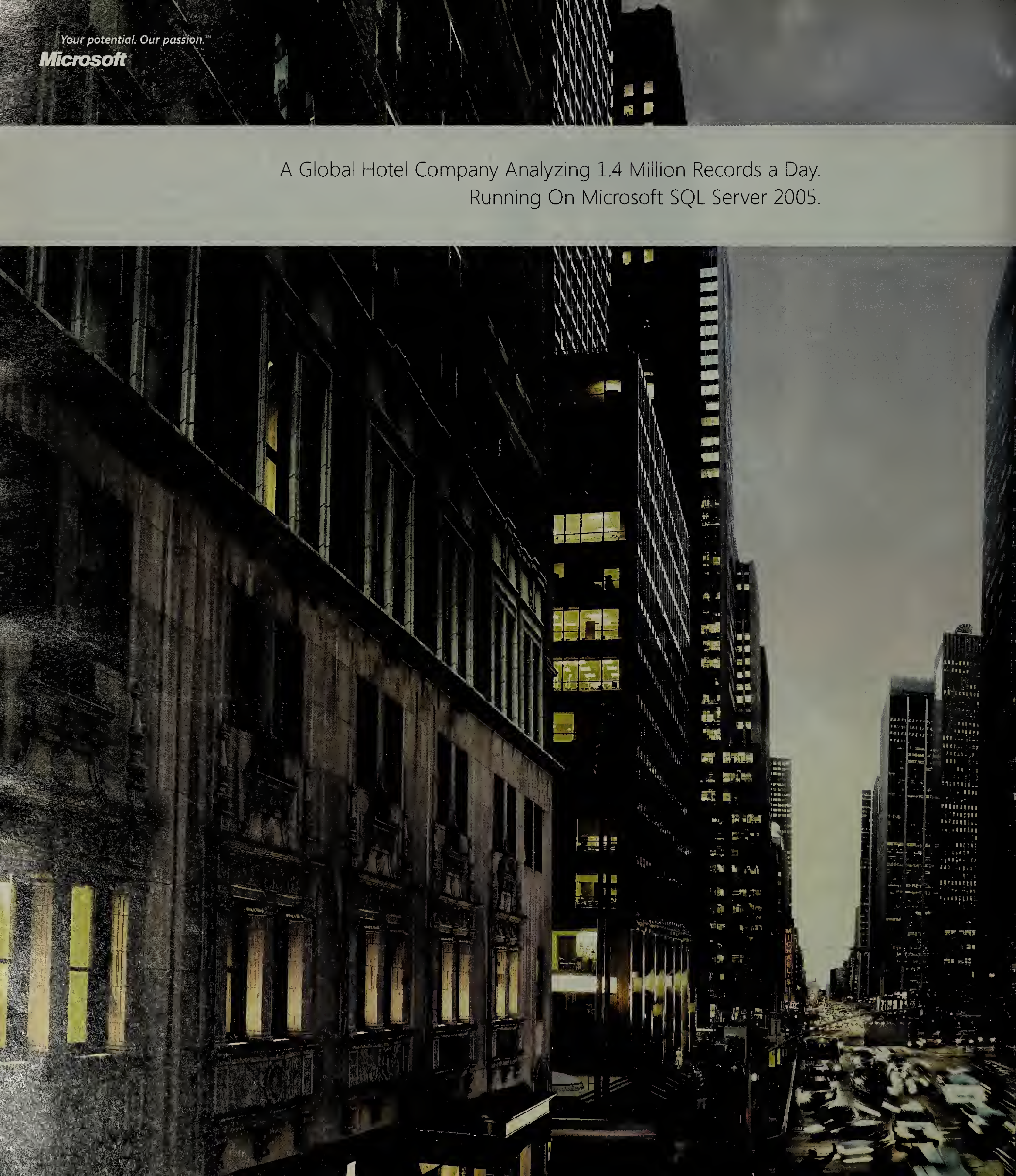

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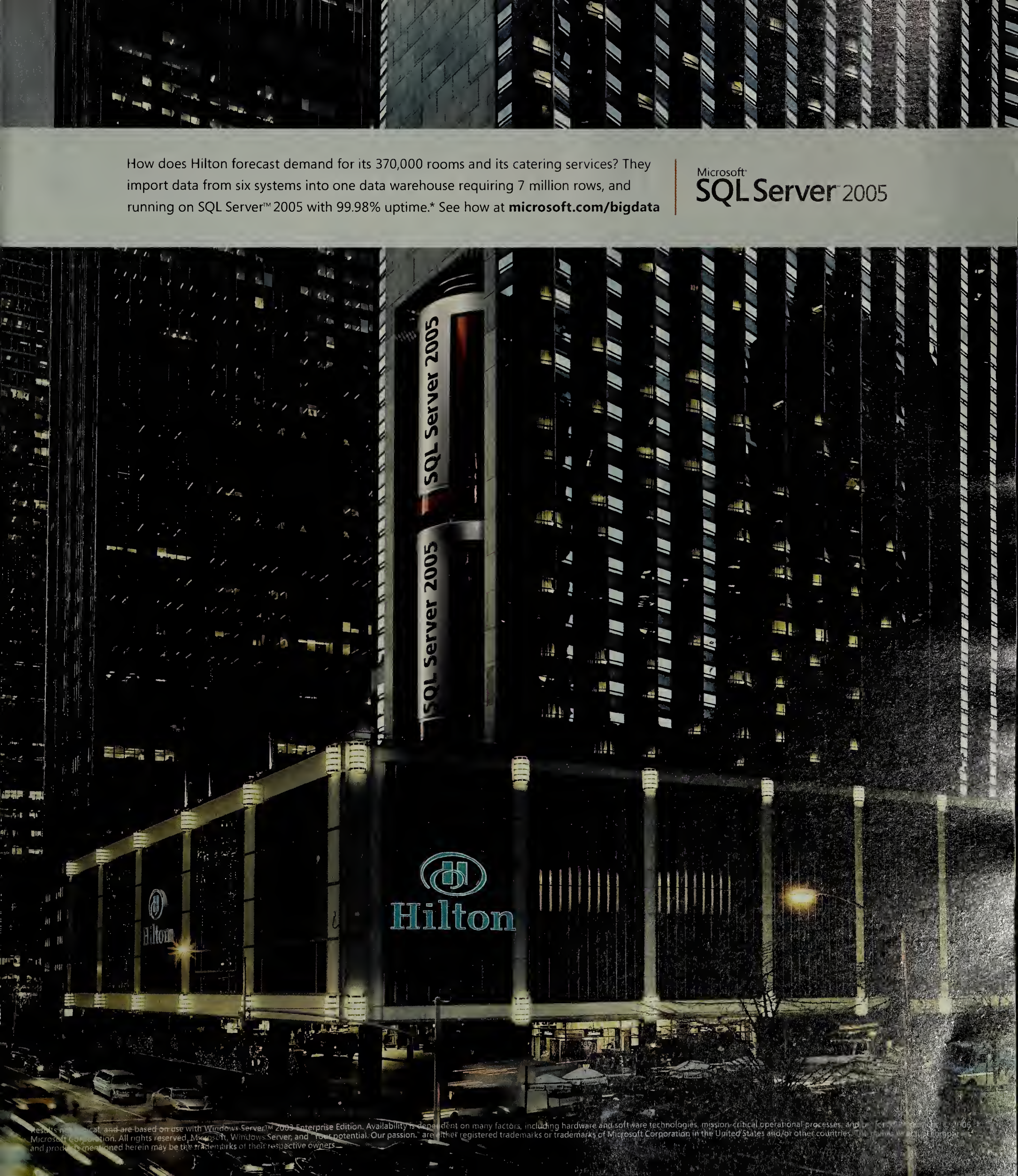

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## BRIEFS

### Symantec to Ship PC App in 2007

Symantec Corp. officials confirmed plans to bring out a new PC application that will integrate security and network policy enforcement technology that the company picked up from recent acquisitions WholeSecurity Inc. and Sygate Technologies Inc. The plan for the tool, code-named Hamlet, was disclosed during the Gartner Symposium/ITxpo in San Francisco last week. Executives said Hamlet is not likely to ship until 2007.

### Microsoft Doubles Training Investment

Microsoft Corp. plans to invest more than $30 million in a new training program to boost the number of certified Microsoft technologists among its channel partners and resellers. The program, called Athena, aims to increase the number of certified programmers by 45,000. The $30 million investment doubles the company's 2005 spending on the program.

### VeriSign to Buy SSL Company for $125M

VeriSign Inc. plans to buy Secure Sockets Layer certificate provider GeoTrust Inc. for about $125 million in cash. The deal will give VeriSign access to GeoTrust's extensive reseller channel, which mostly targets small to midsize businesses, a market that VeriSign doesn't currently serve. GeoTrust's channel of more than 9,000 resellers includes large Internet service providers that bundle SSL certificates with other services.

### Deshaies to Head Microsoft Team

Robert Deshaies has been appointed to head Microsoft's U.S. partner program. Deshaies, previously regional vice president of the small and midmarket solutions and partners group for the eastern region, replaces Margo Day as vice president. Day will take over as a western regional vice president of the company.

## ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

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MATTHEW FAULKNER

# SaaS Hits Software Vendors With . . .

**. . . radical new business model: Users rule.** Software-as-a-service, or SaaS for short, beats out open-source and offshoring as the most disruptive aspect of the software industry, and the one that will most benefit IT users in the years ahead. At least, that's the consensus from within the industry itself, as expressed by a parade of participants at the Software Strategy Summit held in San Francisco last week by the Software & Information Industry Association (SIIA). The Washington-based vendor-advocacy group's research reveals that 67% of independent software vendors will be offering SaaS products in 2008. Sixty-three percent of these soon-to-be-SaaS-capable independent software vendors expect that by then, their on-demand revenue will exceed license fees from on-premises software. And most new SIIA members will get all of their revenue from on-demand software, if what Chris Hoffman claims is happening continues unchecked. Hoffman, director of research at TripleTree LLC, an investment bank in Minneapolis, says that almost all software start-ups are developing for the SaaS business model. "You can't get [venture capital] investment for perpetual-license software companies today," he says. Russ Daniels, vice president and chief technology officer for software at Hewlett-Packard Co., adds that SaaS is fundamental to changing the corporate perception of IT as a complex world run by geeks to one in which tech departments are seen as "providers of a marketplace of services to the business."

**10+** Age, in years, of "most" of the software sold in 2005, says Accenture.

IT's love affair with on-demand apps will continue because of their subscription pricing, predicts Tim Yeaton, senior vice president of worldwide marketing at Red Hat Inc. in Raleigh, N.C. The reason, he says, is that IT execs "get to vote on your product every year" when they decide whether to resubscribe.

### Hybrid software delivery is better . . .

**. . . than SaaS alone for mission-critical IT.** So posits Greg Gianforte, CEO of RightNow Technologies Inc. in Bozeman, Mont. Although 90% of his CRM customers go the SaaS route, Gianforte says that some IT organizations prefer to use their capital budgets to acquire software assets. If software vendors refuse to sell perpetual licenses, "they won't succeed with some large companies," he warns. Furthermore, SaaS advocates promote the benefit of upgrading software once for all end users, but Gianforte argues that the advantages go primarily to the vendors in the form of lower customer-support costs — not to IT managers, who need to train users on universally available features. Gianforte describes that as "turning a Frankenstein switch on." RightNow's Hosting Management System lets users shift to new releases "on the date and time they want," he claims. Contrarian Gianforte also contends that although venture capitalists may not be financing non-SaaS approaches to software, they funded less than 1% of all new businesses last year.

**GIANFORTE:** Vendors need to be flexible.

### Eclipse plug-in goes modular and . . .

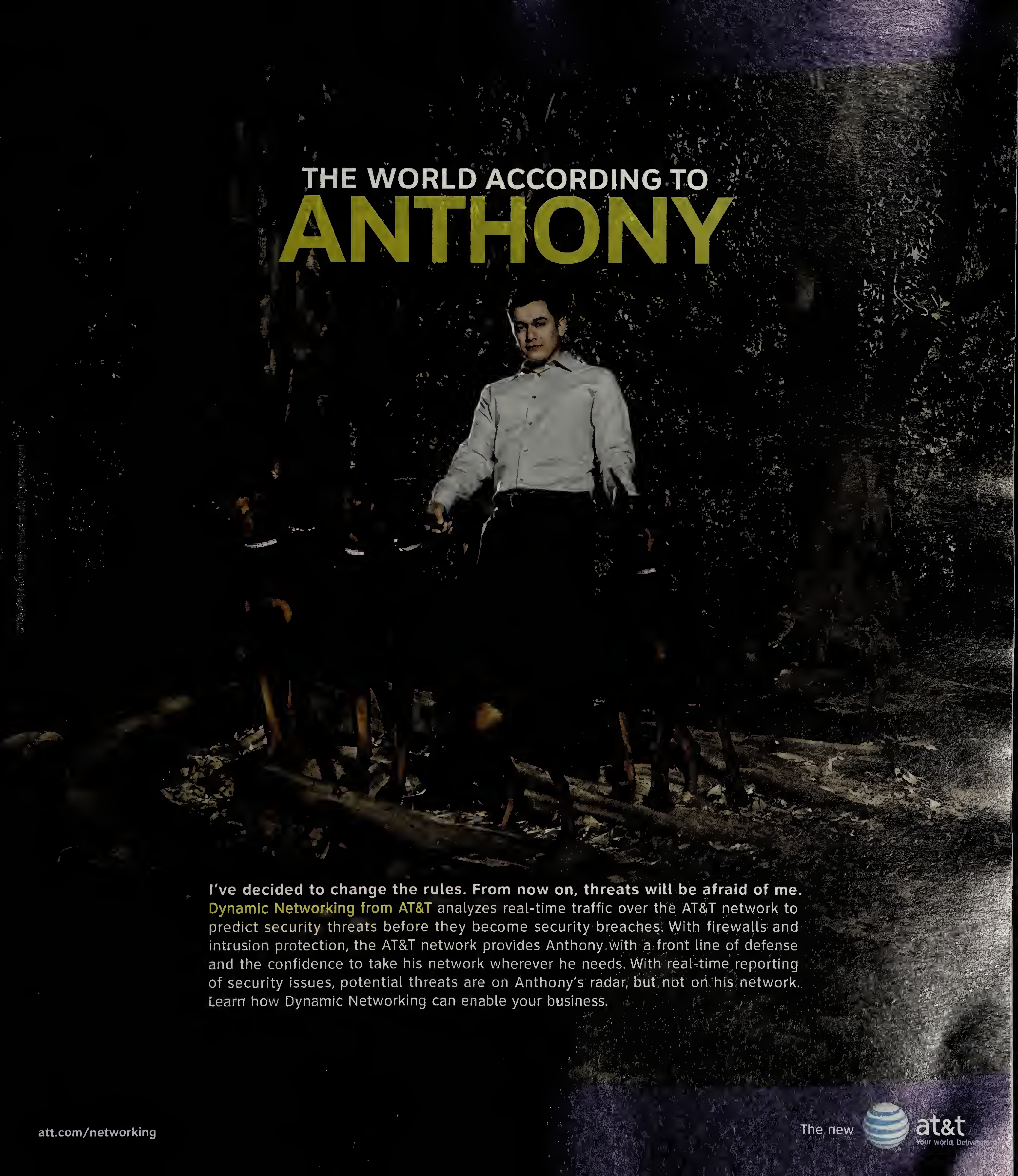
**. . . improves application development.** Sybase Inc. will turn WorkSpace, its monolithic Java-based development software and Eclipse plug-in, into a set of modular but integrated tools with a Version 1.5 release next month. Loren Corbridge, a senior product manager at Sybase, says that forcing customers to buy every component of a product set for developers who have different tasks makes little sense. "Normally, IT managers buy way more software than they need," she says, adding that Dublin, Calif.-based Sybase will ship WorkSpace 1.5 with software keys that turn on only the parts needed by individual developers. WorkSpace 1.5 also improves XML services creation and fully supports Sybase's Adaptive Server Enterprise 15 database. Pricing starts at $495 per seat.

**15k** Number of tests a product must pass to be certified by Sun as Java-compatible.

### AJAX cleans up as a method of . . .

**. . . developing Web apps.** Asynchronous JavaScript and XML, known as AJAX, continues to gain momentum because it lets developers use familiar technology to change static Web pages into interactive ones, says Jouk Pleiter, general manager at Backbase Inc. in San Mateo, Calif. In addition, Dean Guida, CEO of Infragistics Inc. in East Windsor, N.J., says IT has an incentive to update Web apps with AJAX technology, because doing so improves their performance. When end users click on a table, button or other Web-page element, he says, only related data gets updated — not the entire page, as with ones written in standard HTML. Infragistics and Backbase were both at JavaOne in San Francisco last week touting their AJAX tools. Backbase 3.1 comes with more than 50 prebuilt components and is free for Java developers; a .Net version will ship by year's end, says Pleiter. The Backbase runtime engine starts at $5,000 per CPU. Infragistics is beta-testing a version of its NetAdvantage suite that supports JavaServer Faces technology. NetAdvantage for JSF is due to ship in July with the source code to all of the software's AJAX components. Annual subscription pricing starts at $795 per seat.

**31** Number of AJAX programming books on Amazon.com.



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## BRIEFS

### Microsoft Extends Plan to Meet Ruling

A judge last week approved Microsoft Corp.'s plan to start over on a delayed technical documentation project required as part of its 3-and-a-half-year-old antitrust settlement with the U.S. government. U.S. District Court Judge Colleen Kollar-Kotelly approved a two-year extension to parts of her antitrust judgment against Microsoft because of ongoing problems in creating technical documentation for the company's software communication protocols.

### Equinix to Open Four Data Centers

Equinix Inc., a provider of network-neutral data centers and Internet exchange services, has announced it will open new data centers this year in Chicago and El Segundo, Calif., to meet growing customer demand. Those data centers and new facilities planned for the Chicago and Washington areas will result in a 35% increase in the company's cabinet capacity.

### Unilever Awards $40M Pact to Dell

Unilever has awarded a $40 million product and services contract to Dell Inc. Under the pact, Dell will supply Unilever with Windows XP-based OptiPlex desktop and Latitude notebook computers, as well as deployment services. Dell will also be responsible for managed services such as service desk, desk-side support, software distribution and asset tracking.

### Correction

The last name of Mazen Basrawi was spelled incorrectly in a story about Web site accessibility for the blind and other people with disabilities that ran on Page 1 of the May 8 issue ("Accessibility Issue Comes to a Head"). Basrawi is a lawyer at Disability Rights Advocates in Berkeley, Calif.

# Nortel CEO Revamps Plans On Development Spending

## Zafirovski boosts spending on some products, cancels or cuts back on others

**BY MATT HAMBLEN**

NORTEL NETWORKS Corp. CEO Mike Zafirovski last week provided an update on his first six months at the company, saying that he plans to increase development spending on several technologies while dropping or scaling back nine product programs.

Six product initiatives are being canceled, and three will be reduced in scope. Nortel identified only one of the six being eliminated: an edge router for service providers. The cuts are part of a wider effort to chop Nortel's spending by $1.5 billion over the next three years in order to help stop an ongoing series of losses, Zafirovski said.

However, Zafirovski also said that he's setting up a unit focused on metropolitan-area networks and that he plans to devote additional funds to the development of WiMax products, as well as IP multimedia subsystems and video networking technology.

David Dooley, treasurer of the International Nortel Networks Users Association Inc. (INNUA) in Chicago, said Nortel hadn't given him details on the products being dropped. But, he added, Zafirovski's announcement isn't a big cause for concern.

"To the average user, none of the discontinuances will be major," Dooley said. "I can assure you that if they were major products people are clamoring for, [Nortel] wouldn't be discontinuing them."

Dooley, who is director of telecommunications and special projects for the Plano Independent School District in Texas, said he wants to hear more about the affected products and Nortel's overall direction when Zafirovski meets with INNUA members at the user group's annual conference in San Diego on June 11.

"In June, I want to hear a reaffirmation from him that the end users who have been longtime Nortel customers are important to Nortel," Dooley said. "And I fully expect he'll say that." The school district supports 51,000 students and 8,000 teachers with Nortel telecommunications equipment, using fiber-optic links between sites.

In general, "there is optimism in the Nortel customer base," said INNUA Executive Director Victor Bohnert. "Customers finally feel that Nortel is taking control of its sales channels and that [executives] are concerned about defending their market share."

But Jeff Kagan, an independent analyst in Atlanta, was more skeptical about Zafirovski's ability to turn around the Brampton, Ontario-based vendor. "What he says sounds good, but Nortel has announced things that sounded good in the past, and they are still digging out," Kagan said.

Nortel spent $73 million last year on development of the six product programs that are being canceled, according to Zafirovski. Spending on the three initiatives that are being scaled back totaled $80 million in 2005 — an investment that will be reduced to about $40 million this year, he said.

On the other hand, the company plans to increase its spending on WiMax, multimedia subsystems and video networking by $100 million this year and another $67 million in 2007.

It isn't clear how the planned changes will affect Nortel's total research and development budget, which was nearly $1.9 billion last year. A company spokeswoman said that Zafirovski has yet to publicly disclose his overall R&D spending goal for 2006.

Zafirovski said he is focusing on product areas where Nortel can reach a 20% market share within three years. ▸

### Latest Developments at Nortel

**Q1 revenue is expected to be flat with last year's level at best,** but Nortel is forecasting high-single-digit revenue growth for all of 2006.

**In Mike Zafirovski's first six months as CEO, he has replaced nine of the company's 18 top managers,** with two positions now empty.

**Nortel is in the early stages of an SAP ERP implementation** that is designed to help eliminate by the end of next year financial weaknesses identified by regulators.

# Infor to Buy SSA for $1.4B

**BY MARC L. SONGINI**

Infor Global Solutions last week agreed to acquire rival SSA Global Technologies Inc. for about $1.4 billion, further consolidating the business applications market.

With combined sales of about $1.6 billion, the merged firm would become the third-largest applications vendor after SAP AG and Oracle Corp.

Jim Schaper, chairman and CEO of Alpharetta, Ga.-based Infor, would not offer a detailed, long-term product road map, but he said there are no plans to eliminate products or force users to migrate from older applications.

"I have no end-of-product-life concerns," said Bruce Knoll, director of IT at Meridian Automotive Systems Inc. in Dearborn, Mich.

The car parts maker runs Infor's Mapics ERP software. Knoll said Infor isn't likely to force the installed base to migrate to SSA software. In fact, he said he is curious to see what SSA might bring to Infor's product portfolio.

Knoll said both Infor and SSA service midsize manufacturers that rely on the AS/400 platform, making the deal a "good match."

"This is an opportunity," said Jeff Vogstad, client solutions team manager at Coast Mountain Bus Co. in Vancouver, British Columbia.

The transportation company uses Infor's Datastream asset management applications to help maintain its 1,200 buses and its facilities.

The buyout of SSA will allow Infor to offer a broader set of applications, Vogstad said. The significant addition to Infor's installed base will increase the opportunities for customers to share intellectual property, he added.

Coast Mountain is interested in looking at SSA's warehouse and transportation management applications and hopes Infor will work to integrate them with its own software, Vogstad noted.

Schaper acknowledged that Chicago-based SSA and Infor both offer products targeting manufacturing and distribution users, but he said each serves different market niches.

In addition, both companies have been working to develop a service-oriented architecture for their products, a technology that can offer an inexpensive way to do applications integration, he said. ▸

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*Continued from page 1*

# Java

"My concerns would be if they do open-source it — and don't keep control over it — then you are going to have competing implementations," said Rafique.

"I think the 'how' is going to be very important," said Andrew Smith, a systems architect at Innovative Software Engineering Inc. in Coralville, Iowa. Smith wants to know how Sun will preserve compatibility, how testing will be handled once the code is made open-source, and what will happen if a variety of distributions emerge as they did with Linux.

Sun has yet to directly respond to such user concerns. The company didn't provide a plan for preventing multiple Java versions last week, nor did it disclose a timetable for the open-source effort or any licensing details at JavaOne.

"There wasn't that much detail to the announcement," said Ari Kaplan, a senior consultant at Datalink Corp., a consulting firm in Chanhassen, Minn. Kaplan said that despite the lack of specifics, he expects users will, for the most part, welcome Sun's plan because of the growing corporate popularity of open-source software.

However, Kaplan, who is also president of the Independent Oracle Users Group, added that users often express concern about how well open-source software is supported by vendors.

**JAVAONE**

## Sun Open-source Announcements

Plans to release to the open-source community **Sun Java Studio Creator, Sun Java System Portal Server, a Business Process Execution Language engine, NetBeans Enterprise Pack and Java Message System.**

Plans to release to the open-source community the security, messaging and metadata components of its **Web Services Interoperability Technology.**

Plans to make **Java 2 Platform Standard Edition 5** available to GNU/Linux and OpenSolaris operating system distributors under new licensing.

"The mainstream is generally positive as long as the quality, scalability, security and compatibility remain intact," he said. "Those things still remain to be seen."

At the conference, Sun CEO Jonathan Schwartz said he gave Richard Green, who heads the company's software division, the go-ahead to develop a plan for releasing Java's source code. Schwartz said that nothing will stop the open-source plan, which he contended will broaden usage of the Java language by developers. He said he also expects that the move will create new opportunities for the struggling computer maker.

Mark Driver, an analyst at Gartner Inc., argued that the open-source statements from Sun executives were made "for effect" and that the company doesn't necessarily plan to make Java open-source.

"They know they need to open-source Java to fulfill their larger promise to embrace open-source," Driver said. However, he added, Sun is fearful that providing open-source access to Java may prompt Microsoft Corp., The Apache Software Foundation or another vendor to create implementations that aren't compatible with the current version.

> **"If they do open-source it – and don't keep control over it – then you are going to have competing implementations.**
>
> **HAROON RAFIQUE,** SYSTEMS DEVELOPER, UNIVERSITY OF TORONTO

"They think the existing open-source model does not give them the guarantee of the lack of fragmentation," Driver said. "To their credit, they understand that Java is a success today because . . . they have this giant stick and they can literally force compliance."

Jeff Kottke, a Java engineer at Dairyland Healthcare Solutions Inc. in Glenwood, Minn., welcomed the open-source idea. "It seems like open-source groups are able to put out better code that works faster and cleaner," he said.

Likewise, Chris Fogel, a Java developer at a mobile wireless company that he asked not be named, predicted that an open-source Java would lead to wider adoption of the language.

Fogel and others point out that Java already has a community development process — the Java Community Process — that is overseen by Sun, which can approve or reject any proposed changes to the code.

But it won't be clear how any open-source move will affect development "until it's actually out in the [open-source] community," Fogel said. That's when you really find out, he added. ◗

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*Todd R. Weiss contributed to this report.*

# Exec Says Sun Is Serious About Open-source Java

SAN FRANCISCO

**Richard Green**, vice president for software at Sun Microsystems, will lead the company's effort to release Java to the open-source community at some as-yet-unknown point in the future. In an interview here with *Computerworld*, Green talked about how Sun plans to work through any problems raised by open-sourcing.

**Are there any caveats or "ifs" to Sun's plan to open-source Java?** I think the only caveats would be that if our findings, based on the feedback from the community, were overwhelmingly against it, [then] we would certainly reconsider. And it's plausible, it is imaginable – although unlikely – that people would be concerned about risks of incompatibility as a byproduct of this. That evokes significant fear and risk [concerns] in people, and that's the only thing I can foresee as a gating issue.

**What will be the process for getting community feedback?** I can't give a date when we will know. But I think we established during the [conference] some of the means that we will be using, which is membership feedback, participation in a [Java Community Process] and other things, [and] the number of downloads of both the NetBeans tools as well as the Java implementations. The more activity and the more involvement that there is, the greater the likelihood that people will be compelled to rely on the branded and compatible versions of the open-source software to go do it.

**If feedback were negative, would Sun drop the open-source idea?** I don't think dropping the whole idea is a likely possibility. Our strong perspective is to proceed here, and if there is a matching strong reason in the community not to do so, our preference would be to try to work it out rather than just stop.

**What about Sun's longtime fear that an open-source model could lead to multiple implementations of Java?** Why would you want to build an implementation of any software platform that could not run the application base out there? It's the mass. As the number of lines of code that use compatible Java continue to go up, there is increased force to ensure that implementations of the platform are compatible. Developers don't like to build apps that don't run.

**Can you cite an instance where open-sourcing led to multiple implementations of a technology?** There are certainly different flavors of Linux. If you look at ISVs out there, they will say, 'We certify on this version of Red Hat, but not on SUSE.' The behavior of ISVs [is] demonstrating that there has been a fracturing in the Linux market. It's clear – you have to buy a copy of an application not for Linux, but for Red Hat or a copy of an application for SUSE. That is indirectly but very clearly an indication of fracturing.

**What does "open-source" mean in the case of Java?** In general, it's a little early to state very clearly what licensing technique we would use, although a strong leaning to an existing, well-practiced license is likely. But without being able to specify the license, I can't answer that question in very great detail.

**What did Sun CEO Jonathan Schwartz mean when he said he wants the Java code released as soon as possible?** We will do it no sooner than when we can kind of measure what the community needs. Under those constraints, as soon as possible is accurate.

**Is the need for faster innovation driving the desire to open the code?** I don't think so. It's important to clarify that this is not a black-and-white situation. We have done a great deal in Java to open-source it, and this is the last bit that we're talking about here. It's hardly like this is new. I think people are making a much bigger story out of this than need be.

The key reason we want to do this is to get Java in more people's hands. We don't have an innovation issue. In fact, sometimes we're told that people cannot digest the new releases, the rate of change, of software that comes out from the Java process.

**What will open-source Java mean for CIOs?** I think the positive message for them is [that] the likelihood of access and the growth of an industry that will give them competitive offerings is likely to increase.

– PATRICK THIBODEAU

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# GLOBAL DISPATCHES

An International IT News Digest

## University Dean Fired Over Chip R&D Fraud

**SHANGHAI**

THE FIRING of a prominent academic official here this month for faking the development of a well-known chip family is an embarrassing setback for the Chinese government, which views high-tech research and development as a key piece of China's economic future.

Chen Jin, who was the dean of Shanghai Jiaotong University's School of Microelectronics, was sacked after a government investigation determined that he falsely claimed that he and a team of co-workers developed the Hanxin series of digital signal processors used in mobile phones and other devices.

The initial Hanxin DSP chip was hailed by Chinese officials as a breakthrough for the country's semiconductor industry after it was unveiled in 2003 by a company Chen had set up. Three more versions have been released since then.

The fraud began to unravel in December with the start of a two-month investigation into the Hanxin project. The investigators from China's Ministry of Science and Technology, which helped fund the chip development work, found that none of the chips met the specifications claimed by Chen.

For example, they discovered that the dual-core Hanxin 4 is based on a processor core from ARM Ltd. in Cambridge, England, not on one developed by Chen and his team, the Shanghai university said.

■ SUMNER LEMON, IDG NEWS SERVICE

## Kenya Withdraws From Telecom Cable Project

**NAIROBI, KENYA**

A DEBATE ABOUT open access threatens to delay the Eastern Africa Submarine Cable System project, which is designed to link the African continent to global telecommunications networks via fiber-optic cable.

Construction is slated to begin by the end of June. But earlier this month, the Kenyan government announced that it is withdrawing its support for the $200 million project because of wrangling over whether to provide Internet service providers with free access to the fiber-optic link.

In addition, the sponsors of the project have yet to choose a construction company to lay the 9,900-kilometer cable from the Sudanese city of Port Sudan to Durban in South Africa.

"Three years have passed now since the project was envisioned, and nothing has been done apart from holding meetings," Bitange Ndemo, Kenya's permanent secretary for information and communication, said in an e-mail message.

■ MICHAEL MALAKATA, IDG NEWS SERVICE

## Alleged E-mail 'Bomber' Faces Trial After Ruling

**LONDON**

A TEENAGER WHO allegedly crashed a former employer's server by sending a torrent of junk e-mail, a practice known as mail bombing, is due to stand trial after a British appeals court rejected a lower-court ruling that the incident didn't violate the U.K.'s Computer Misuse Act.

David Lennon, 18, faces up to five years in prison on a charge of unauthorized modification of a computer. The case comes amid calls for revisions to the Computer Misuse Act that would add more specific language to address denial-of-service attacks.

In early 2004, Lennon allegedly used a program called Avalanche to launch a denial-of-service attack that crashed the e-mail server at Domestic & General Group PLC, a London-based company that provides warranties for home appliances and other products.

A judge at the Wimbledon Magistrates' Court in London had ruled last November that Lennon didn't violate the law on misusing computers because the company's Web site invited e-mail responses.

■ JEREMY KIRK, IDG NEWS SERVICE

## Australian Military Tests RFID Technology

**SYDNEY**

THE AUSTRALIAN Department of Defense last week began a pilot project aimed at using radio frequency identification technology to upgrade its logistics operations.

The pilot project, which is budgeted at 20 million Australian dollars ($15.2 million U.S.), calls for attaching RFID tags to shipping pallets used by the Defense Materiel Organization's logistics division. The DMO manages the movement of goods to more than 50 military locations in Australia and overseas.

The RFID technology initially is being rolled out at two-dozen facilities. The goal is to make it easier for troops to locate items in shipments, which can be difficult because of the often spur-of-the-moment nature of military logistics, said Malcolm McKeith, director of the DMO's visibility program.

The pilot project involves the testing of active RFID tags programmed with the inventory numbers of all the items loaded on a pallet, McKeith said. A full inventory of the supplies will be gathered automatically as trucks drive through a specially constructed scanning gantry, he added.

■ DAVID BRAUE,
COMPUTERWORLD TODAY (AUSTRALIA)

## E-commerce Tax Law Extended in Europe

**BRUSSELS**

THE EUROPEAN COMMISSION was forced to extend its existing rules governing value-added taxes (VAT) on e-commerce transactions until the end of 2008 after failing to agree on proposed changes.

**GLOBAL FACT**

64%

**Percentage of government departments in Latin America that plan to increase their IT spending this year from the amount they spent in 2005.**

SOURCE: GOVERNMENT INSIGHTS, McLEAN, VA.

The current law, passed in 2002, was due to expire at the end of next month, and the European Union planned to replace it with two general laws covering all VAT levies, not just taxes on e-commerce. But the European Commission said last week that the EU's 25 member states had failed to reach a required unanimous agreement on the new laws.

Currently, all e-commerce vendors selling products in Europe have to collect the VAT charged in the country where a buyer is located. If the 2002 law wasn't extended, only European companies would have been subject to the VAT requirements, placing them at a competitive disadvantage against other businesses. "We had to prolong the directive; otherwise, the system would collapse," said a spokeswoman for the European Commission.

■ PAUL MELLER, IDG NEWS SERVICE

*Compiled by Mike Bucken.*

## Briefly Noted

**Intel Corp.** last week disclosed plans to shut down its Glasgow, Scotland, development operation and lay off the facility's 17 employees by September. The Glasgow unit develops Ethernet media access control protocols, which control the flow of data through LANs. Intel tried to transfer the workers but couldn't find another home for them, a company spokeswoman said.

■ BEN AMES, IDG NEWS SERVICE

**East African countries,** including Tanzania, Kenya and Uganda, are coordinating their efforts to pass cybercrime laws that would be similar to ones now being put into effect in the Southern African Development Community region. The SADC countries started harmonizing their cybercrime laws last year to deal with cross-border criminals. Work in that region is expected to be completed by the end of 2007.

■ MICHAEL MALAKATA,
IDG NEWS SERVICE

**Wipro Ltd.** in Bangalore, India, last week said it's acquiring Quantech Global Services LLC in Okemos, Mich., for about $10 million in cash. The acquisition will add mechanical design to the list of IT services offered by Wipro. Quantech, which has offshore facilities in Bangalore and the Indian city of Hyderabad, does computer-aided design and engineering work for the automotive, aerospace, consumer goods and heavy engineering industries.

■ JOHN RIBEIRO, IDG NEWS SERVICE

**Bank of Tokyo Mitsubishi UFJ Ltd.** said a computer glitch left customers unable to withdraw money from its automated teller machines on May 13. The trouble began when a suspected disk-drive problem disrupted cash withdrawals at some 21,000 ATMs. Service was restored after about eight hours, according to Bank of Tokyo.

■ MARTYN WILLIAMS,
IDG NEWS SERVICE

**Dell Inc.** CEO Kevin Rollins earlier this month attended the opening of a computer lab at a school for the children of migrant workers in Beijing. The lab has 38 Dell OptiPlex desktop PCs, one PowerEdge server and a projector donated by the company. Dell declined to disclose further details of Rollins' trip.

■ SUMNER LEMON, IDG NEWS SERVICE

# MIT Media Lab's Baby-Talk Project Spawns Massive Array

## SAN will process 350GB of video every 12 hours

**BY LUCAS MEARIAN**

Imagine a storage array with capacity equal to a stack of iPods three times the height of the Empire State Building and that can be managed with common Ethernet networking tools.

Developing such an array is the goal of a group of MIT scientists and four storage vendors working on the Human Speechome Project, an MIT Media Lab venture looking to find out how babies develop the ability to talk.

The project began three months ago when MIT associate professor Deb Roy began using 14 microphones and 11 cameras mounted on ceilings throughout his house to record his baby boy's everyday life. The setup gives researchers a bird's-eye view of every room in the house.

The effort requires a massive storage-area network to archive and search what is expected to be 1.4 petabytes, or 1,400TB, of data compiled over the span of the three-year project. It is being built from commodity hardware and uses a 10 Gigabit Ethernet IP network for data transfer between the back-end SAN and hundreds of servers.

"I think here what we're seeing is the future of storage. This is a great marriage between industry and the academic world," said Frank Moss, director of the MIT Media Lab and former CEO of Tivoli Systems Inc., at a press conference last week at MIT.

When completed, the Human Speechome Project's computing infrastructure is expected to include more than 300 Hammer Z-Rack storage enclosures from Bell Microproducts Inc., about 3,000 Serial ATA hard disk drives from Seagate Technology LLC, and more than 100 10 Gigabit Ethernet switches and 400 blade processors from Marvell Technology Group Ltd.

The project team selected the high-throughput switches to handle the storage I/O anticipated by researchers, who believe that 350GB of video will be processed during every 12-hour analytical run.

### Cost-Conscious Approach

To achieve the desired performance requirements, 150-drive stripes will be created using the native virtualization capabilities of Bell's Z-SAN. Protection against data loss will be delivered through RAID 10 mirrors of the raw video data, transform data and metadata files.

"Our approach allows us to eliminate a lot of cost by using high-volume, commonly available systems," said Jeff Greenberg, senior director of product marketing at Irvine, Calif.-based Zetera Corp., the firm that's designing the SAN.

The project has been amassing several terabytes of audio and video data per week of early-childhood learning and socialization data to model human language acquisition, Roy said.

"If you take all parallel tracks of data over three years, you'll have 400,000 hours of video and audio data," he said.

Roy said engineers at the university have also built an application that can home in on video and audio streams that involve his 9-month-old baby's development while avoiding video playback of empty rooms or footage of mundane tasks such as making coffee. ▸

# Data Guard SAN Could Pay for Itself in a Year

**BY SHARON FISHER**

Data Guard Systems Inc., a provider of a hosted accounting system for independent cell phone stores, expects that a $225,000 storage-area network installed in March will pay for itself within a year.

Timothy Maliyil, president and founder of Data Guard, said the monthly electric costs for the new SAN will likely be $20,000 less than the alternative storage upgrade.

The new SAN includes two EMC Clariion CX500 arrays capable of handling between 6TB and 7TB of storage and four Dell dual-processor PowerEdge servers running EMC's VMware virtualization software, he said.

The Cambridge, Mass.-based company installed the SAN to support its rapid growth, Maliyil said, noting that DataGuard's sales tripled between 2004 and 2005. It also uses 60 smaller Dell PowerEdge servers to store data.

Before buying the SAN, Data Guard had looked at doubling the number of PowerEdge servers to support the growth, but it chose the SAN for its reduced electric costs. Moreover, adding servers likely would have required additional data center space, increasing expenses, Maliyil said.

The SAN will "pay for itself in a year," he said. "I'd rather spend money on hardware than on a data center."

Maliyil said using support services from Dell Inc., which supplied the Clariion systems under its reseller agreement with EMC Corp., eliminates the need for additional staffers to run the new systems.

With the new setup, Maliyil noted, Data Guard can support rapid growth. "Because we bought this, we have room to grow — even if we had another explosive year like last year," he said. ▸

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# IBM Plans to Support OpenDocument in Notes

## Beta release of software, code-named Hannover, set to ship early next year

**BY TODD R. WEISS**

IBM LAST week said the next version of Lotus Notes will add support for the OpenDocument format (ODF) standard, allowing users to create, edit and save word processing, spreadsheet and presentation documents without having to launch another application.

IBM demonstrated the new capabilities, to be shipped later this year in a beta release, last week at the Deutsche Notes User Group conference in Karlsruhe, Germany. The final release of the software, code-named Hannover, will ship in early 2007.

Vijay Sonty, CIO of Broward County Public Schools in Sunrise, Fla., said the ODF plans for Notes will be a boon to the 20,000 teachers, 275,000 K-12 students and 200,000 adult education students his department supports.

"This is IBM's answer to Microsoft," Sonty said. "We won't have to rely on Microsoft Office. We can now have all students and teachers accessing all documents and collaborate more easily. To be able to access disparate documents is a big plus for us."

In addition, Sonty said, the new Notes version "will enable student-to-teacher collaboration, and because it's Web-based, it really helps from a distance-learning standpoint,"

Ken Kolb, information systems manager at Farm Bureau Mutual Insurance Company of Arkansas Inc. in Little Rock, said the new Notes client will allow the 900 Notes users at his firm to use fewer software programs.

"It will be less confusing to users not to have to switch back and forth between applications," Kolb said.

### International Acceptance

Earlier this month, the International Standards Organization accepted the ODF as an international standard for saving and exchanging digital office documents, an important move for many IT organizations looking for alternatives to proprietary business applications.

> We won't have to rely on Microsoft Office. We can now have all students and teachers accessing all documents and collaborate more easily. To be able to access disparate documents is a big plus for us.
>
> CIO, BROWARD COUNTY PUBLIC SCHOOLS

"The game-changer that ODF represents is that it allows you to retrieve information from a document without opening it," said Anne MacFarland, an analyst at The Clipper Group Inc. in Wellesley, Mass.

The format also improves the process of exchanging information, letting "businesses be less clumsy in the ways they do business electronically," she said. "It's a first step in a new dexterity for business information."

Amy Wohl, an analyst at Wohl Associates Inc. in Narberth, Pa., said the updated Notes version will let users better share documents with others. Such interoperability is "where all this is coming from. I think it's a good thing," she said.

Wohl also said that users don't have to choose between Microsoft Office applications and support of ODF, despite Microsoft's current policy not to support the standard. Various third-party add-ins allow Microsoft Office to work with ODF, she said. "IBM is cutting into Microsoft's space only as far as Microsoft doesn't choose to adopt the standard," Wohl said.

Ken Bisconti, vice president of IBM Workplace products, said the company is adding ODF to Notes to offer more choice for customers. "There has been a lot of resentment" from users who feel forced to upgrade to business-productivity applications with new features they don't want, he said. ▸

# BMC Updates Configuration Management Database

## Also releases new management tools

**BY MATT HAMBLEN**

BMC Software Inc. last week unveiled its second-generation configuration management database, along with updates to its systems management offerings, including three new discovery tools and related products.

The BMC Atrium Configuration Management Database (CMDB) 2.0 is the first update of the software since January 2005, the company said.

In addition, BMC brought out a new product called BMC Atrium CMDB Enterprise Manager, software product dictionary and software library modules for Enterprise Manager, and BMC Remedy Action Request System 7.0. Other new products from the Houston-based vendor include tools for identity discovery, process discovery and mainframe discovery, as well as an analytics offering.

Atrium CMDB 2.0 has been used in a proof-of-concept test at Mary Kay Inc. in Addison, Texas, in recent weeks and will be implemented in the next year, said Steve Moore, technology leader at Mary Kay.

The cosmetics company began rolling out the configuration management software last September. Moore credits the database with already providing more efficient monitoring of the systems the company uses to support 3,500 employees and 1.4 million independent sales consultants.

Moore said that he also expects that Atrium CMDB 2.0 will help improve the integration of a variety of discovery and monitoring tools from BMC and numerous other vendors across Mary Kay's vast service-oriented architecture.

"We have the opportunity to integrate [various tools] with one vendor [and] the capability for a graphical representation for everything in the CMDB," he said.

Mary Kay's IT operation manages about 825 servers along with 350 network nodes, according to Moore.

While management tools can't completely erase the divisions between business processes and IT systems, the configuration management database is helping to monitor and discover what system components are needed for a business process, such as an e-commerce application, he said.

Rich Ptak, an analyst at Ptak & Associates Inc. in Amherst, N.H., said the new version of BMC's Atrium product "probably" gives it an edge over competing products from the likes of CA Inc., IBM's Tivoli Software unit and Hewlett-Packard Co.

The latest version of BMC's offering is easier to use, has better data access capabilities and provides greater integration of a variety of management tools, he said.

An effective content management database "is a major enabler of business service and business process management," Ptak said. Good tools can pull together information from throughout an enterprise and ensure that it is synchronized and accurate he said.

Pricing varies for Atrium CMDB 2.0. Enterprise Manager is priced at $100,000, plus $10 per managed desktop. ▸

## CA Revises Performance Tool

**CA INC.'S** Wily Technology Inc. division last week introduced a new version of its Introscope software for monitoring and optimizing the performance of business-critical Web applications.

Starwood Hotels & Resorts Worldwide Inc. in White Plains, N.Y., plans to adopt Version 7 of Introscope this summer, said Keith Kelly, vice president of Web technology at the hotel chain.

Starwood installed Version 6 of Brisbane, Calif.-based Wily's Introscope tool after an online reservation system launched in 2001 began crashing nearly every four hours, Kelly said. The Introscope installation fixed the problem, and the system now accounts for about 10% of all revenue, booking about $1 billion in annual reservations.

Kelly said Starwood uses Introscope 6 on eight application servers for the Web-based reservation system and to monitor 32 Java virtual machines.

Kelly said he is interested in testing the new capabilities in Version 7, which offers expanded data views and can show how long it takes a user to get a Web response. Introscope 7 also provides tools for the automatic discovery, monitoring and triage of system problems, according to CA.

The CA release will be especially helpful for customers operating in service-oriented architecture environments, said Rich Ptak, an analyst at Ptak & Associates Inc.

Pricing for the new version was not disclosed.

– MATT HAMBLEN

# Grid Systems Speed Wachovia Transaction Apps

**BY PATRICK THIBODEAU**

Wachovia Corp. has freed some of its Java-based software from dedicated servers to let the transaction applications draw computing power from a pool of 10,000 processors spread across cities in the U.S. and U.K.

The financial services firm began the grid effort more than a year ago with the installation of FabricServer adaptive grid infrastructure software from New York-based grid technology vendor DataSynapse Inc.

The FabricServer software virtualizes transaction applications and enables them to scale across hardware resources as needed. DataSynapse announced the Wachovia implementation last week.

The Wachovia system taps into computing resources available on multiple systems, allowing the company to avoid dedicated hardware costs and make better use of underused processors, officials said.

The servers are located in New York, Philadelphia and London and at Wachovia's headquarters in Charlotte, N.C.

## Multiple Benefits

Tony Bishop, a Wachovia senior vice president and director of product management, said using dedicated servers rather than the grid for the Java applications would be "three times the cost in terms of capital and people to support it."

The eight Wachovia applications running on the grid system are used in internal transactions, such as order management, Bishop said. Each of the applications runs in a J2EE environment on application servers from BEA Systems Inc. and JBoss Inc.

Because the grid system provides resources as needed for the applications, Bishop said, response time has improved on some transactions from 10 msec to 2 msec.

Bishop, who worked for DataSynapse before he was hired by Wachovia last year, said the improved performance means decisions and services can be made and delivered more rapidly.

"As things get more and more automated and more and more real time, it will be IT that differentiates in this business," Bishop said.

Donna Scott, an analyst at Gartner Inc., said that Wachovia is an early user of grid technology for such applications. Many organizations, she said, still run Web-based applications in silos. "Most organizations have these islands of computing, and they don't talk to each other," she said.

IBM also has a product, WebSphere-XD, that allows transactions across a shared resource pool, but for the most part, such technologies are still emerging, Scott said. ◆

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# Financial Industry Looks To Avoid ID Restrictions

## Congress eyes limiting use of SSNs as identifiers

**BY JAIKUMAR VIJAYAN**

THE POSSIBILITY that U.S. lawmakers might restrict the widespread use of Social Security numbers as customer identifiers because of data-privacy issues is prompting big concerns within the financial services industry.

Randy Lively Jr., CEO of the American Financial Services Association in Washington, said last week that such a move could deprive banks, insurance firms, credit bureaus and other businesses of a reliable identity verification method while doing little to bolster consumer privacy.

"The Social Security number is the only unique identifier in our country that enables a [company] to be sure that the consumer they are doing business with is the correct John Smith," Lively said. Any attempt to limit the use of the numbers in commercial transactions could disrupt the nation's economy, he argued.

Concerns about the misuse of Social Security numbers and their link to identity theft are valid, Lively acknowledged. But he said that lawmakers need to understand the consequences of barring their use for commercial purposes. "What would be put in place if that number were to go away? And wouldn't that identifier be susceptible to the same kind of fraud?" he asked.

Lively was one of several financial industry representatives who testified at a hearing held in Washington earlier this month by a subcommittee of the House Committee on Energy and Commerce.

Taking a contrary view at the hearing was Marc Rotenberg, executive director of the Electronic Privacy Information Center, a Washington-based advocacy group.

Rotenberg said last week that EPIC supports current efforts by federal legislators to restrict the use of Social Security numbers. One is being led by Rep. Edward Markey (D-Mass.), who is sponsoring a bill that would require the Federal Trade Commission to establish rules limiting the purchase and sale of the numbers except in certain situations. Another bill, sponsored by Rep. Clay Shaw (R-Fla.), seeks to prohibit most sales and public displays of Social Security numbers and limit other uses of them.

"The concern is that use of [Social Security numbers] is contributing to the problem of ID theft," Rotenberg said. Although the numbers aren't the only source of identity information being tapped by companies, he added, "we see [their use] associated with a growing privacy risk."

### Cost Worries

But a written statement submitted at the hearing by the Securities Industry Association's Financial Services Coordinating Council (FSCC) warned that overly broad legislation will raise the cost of credit and force "fundamental and costly changes to internal business operating systems."

In its statement, the FSCC urged that any legislation intended to limit the use of Social Security numbers "be carefully targeted to specifically identified abuses, such as measures to stop identity theft." The council claimed that existing laws such as the Gramm-Leach-Bliley Act and other proposed bills already require companies to protect sensitive information.

In testimony from the FTC, Commissioner Jon Leibowitz said companies and government agencies can take other actions to reduce identity theft, such as implementing better processes for protecting data and developing better fraud-detection technologies.

The FTC itself will continue to move against companies that fail to demonstrate due diligence in protecting sensitive data, Leibowitz said in a statement posted on the commission's Web site.

For example, he noted that the FTC levied a $10 million civil penalty against data aggregator ChoicePoint Inc. in January and required it to pay $5 million in restitution to victims of a data theft. ▶

## Privacy Proposals

Congress is considering two bills that would restrict the use of Social Security numbers:

**HR 1078: Social Security Number Protection Act of 2005**

- Introduced March 3, 2005, by Rep. Edward Markey (D-Mass.).
- Seeks to establish criminal penalties for the sale and purchase of Social Security numbers for any reason other than health, research, law enforcement or emergency situations.

**HR 1745: Social Security Number Privacy and Identity Theft Prevention Act of 2005**

- Introduced April 20, 2005, by Rep. Clay Shaw (R-Fla.).
- Seeks to restrict the sale and public display of Social Security numbers, limit the sharing of them by consumer reporting agencies and make it harder for businesses to deny service to customers who refuse to provide their numbers.

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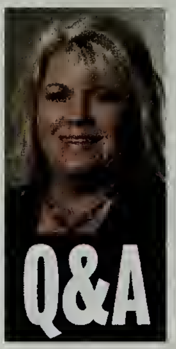
# HP Pushes Open-source as Part of 'Switzerland' Strategy

**BY ERIC LAI**

***Christine Martino** was appointed vice president of Hewlett-Packard Co.'s open-source and Linux organization last November. An 18-year veteran of HP, Martino spoke with* Computerworld *this month about the company's open-source strategy. Excerpts from the interview follow:*



**Your organization is part of HP's enterprise storage and servers division, yet it works in all areas of the company where there is open-source or Linux activity. How do you measure the contributions you make to HP's bottom line?** That's not an easy thing to calculate. We look at a number of different factors — our Linux server sales, for instance. We also measure how much [business] in Linux and open-source services we help drive. There are some softer measures, [such as] how many deals have we helped [win] because we have open-source knowledge.

**One analyst compared HP to Switzerland, because you can play in the Unix, Linux and Windows markets simultaneously without offending any business partners.** I like being called the Switzerland of the high-tech industry. It applies in operating systems but also up the stack as well. Our goal is to have a level playing field across platforms, from HP-UX to Windows to Linux. I know very, very few customers that have a homogeneous environment. They have legacy systems to deal with [and] new applications going up.

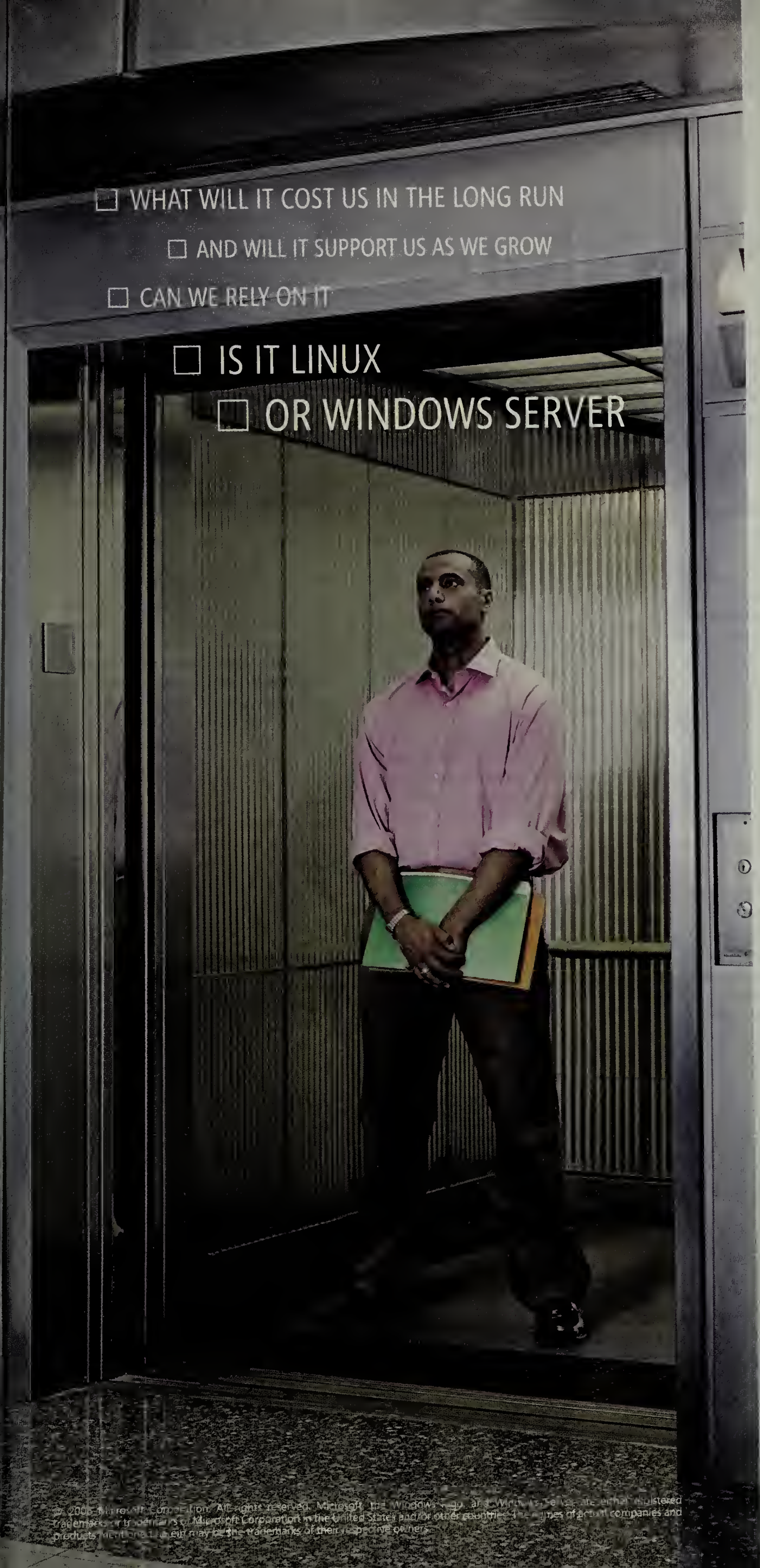
**IBM is the big company most identified with open-source, more so than HP. And Sun has made Solaris and other pieces of its technologies open-source. Is there any danger that Sun will eclipse HP in the eyes of the open-source community?** I'm not very worried about Sun eclipsing us in the mind-share battle or any other one. Our strategy works for customers because it offers them what they need.

**Do you plan to offer any more open-source applications in the near future?** For the initial middleware stacks we're focusing on, we're in pretty good shape. We wanted to have a directory services stack, a database stack and a J2EE stack. We've got the pieces together for that now, and that's what our customers have wanted so far. We'll probably add more components, but right now, we have a pretty good mix. What I'm telling the team to focus on is tying these stacks of open-source middleware components to specific commercial application areas or things higher up the stack — like SAP, for example, or specific vertical applications.

**Would HP ever get in the game of acquiring open-source vendors?** It's not a high priority for me right now to buy open-source content across different products, because our strategy of choice is from the [operating system] layer to middleware. I don't see the benefit of breaking that strategy in either the open-source or commercial software side.

**HP sells PCs installed with Mandriva Linux in Latin America. When could we start seeing Linux desktops in North America?** We do certify Novell [Linux] on our desktops. We don't ship desktops with Linux [on a widespread basis] now because the market isn't big enough or cohesive enough from a worldwide perspective. We watch it closely, though, as does the Personal Systems Group.

Our regional groups have the freedom to work more locally if a customer wants it. So we do Mandriva in France and Brazil, and Ubuntu in South Africa. If there is big interest when SUSE Linux Enterprise Desktop 10 from Novell is released, the PSG can turn on a dime and offer it pretty quickly worldwide. ▶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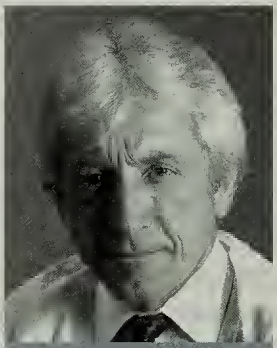
DON TENNANT

# Oblivious No More

TWO WEEKS AGO, I recounted the tale of Dale Frantz, CIO at Auto Warehousing Co., who had been harassed by a Microsoft sales apparatus that appeared to be oblivious to the ramifications of its shameless business practices.



**DON TENNANT** is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com.**

Over a period of several weeks, Frantz was subjected to what we now know to be a standard operating procedure on the part of Microsoft Software Asset Management "engagement managers" — key sales players on certain account teams. These managers will contact a company out of the blue with a claim that Microsoft has reason to believe the company's software isn't properly licensed. Stressing the risks associated with noncooperation, they insist on sending a consultant to do an audit, thereby greasing the skids for a lucrative Software Asset Management contract. Very bad form, you might say.

Now that the tactic has been exposed, it's Microsoft that suddenly finds itself on the defensive. But the company had reason to question the prudence of its strategy even before my column appeared.

The week before Frantz contacted me, he had already written to his engagement manager, Janet Lawless, to call her bluff. Fed up with the increasingly threatening tone of her correspondence despite his repeated attempts to demonstrate compliance, he finally told her that he wasn't going to waste anymore time with her and that she was to direct all future correspondence on the matter to his corporate attorney. But it's the way he concluded that e-mail that presumably got Microsoft's attention.

"The thing that is really sad about this whole affair is that Auto Warehousing Company is virtually a dedicated Microsoft shop, due to my (prior) professional respect for your company," Frantz wrote. "As I have spoken at global conferences and been quoted many times in the IT trade press, I have reinforced that AWC is a Microsoft shop and that we are proud of that fact. It is extremely unfortunate that it is now clear that your many detractors are actually the ones that are correct."

Since the column appeared, tens of thousands of people all over the world have become aware of the practice. Many others who were already aware of it, including readers in Scotland, New Zealand and Singapore, wrote to share similar experiences. Waleed Hanafi, a consultant in Singapore, said he was targeted by Microsoft several years ago when he was CIO at an international bank.

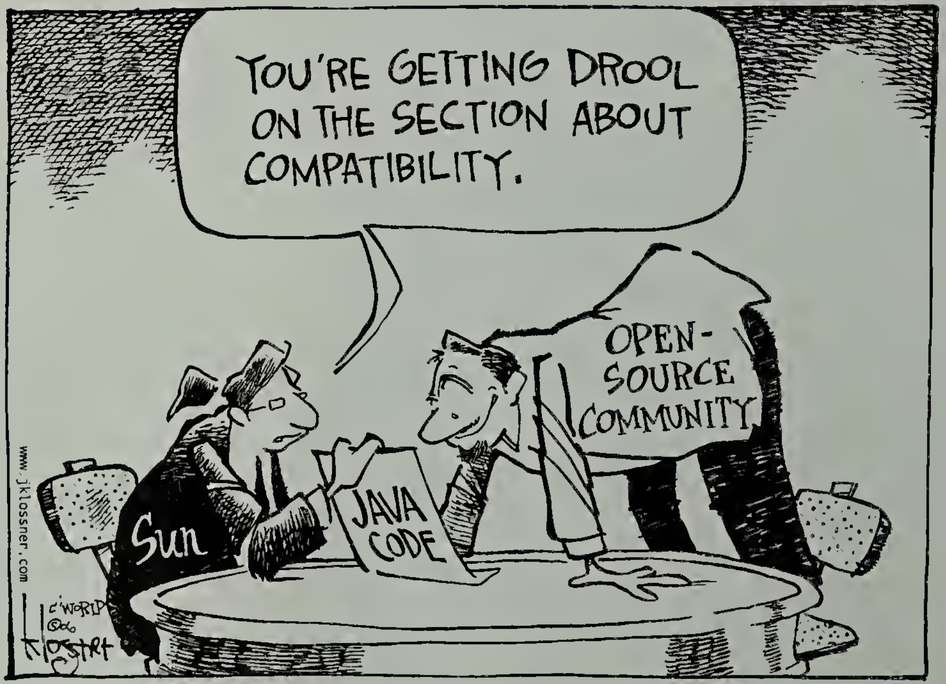
"I wrote back thanking them for their letter and for raising the issue of license compliance," Hanafi recounted. "I indicated that I believed we were substantially overlicensed [and] that we would be seeking refunds for unused licenses. I didn't hear from them again."

On the home front, an IT director in New York whose experience closely mirrored that of Frantz recalled how he offered to revive a legacy Microsoft Systems Management Server (SMS) installation to run an internal scan to demonstrate his compliance. Microsoft's perplexing response, the IT director said, was that it didn't trust the information he'd get from SMS and that it would be too time-consuming to validate the information's accuracy.

"As Microsoft continues these types of practices," the IT director noted, "it makes a much stronger case for me to push more and more of our systems toward Apple and Linux, which I've been doing for the last two to three years."

Indeed, many other readers wrote to say that this case has pushed them over the edge and that they plan to re-evaluate alternatives to Microsoft. You can bet Microsoft now recognizes the ramifications of its actions. Obliviousness carries a very high price. ▸

Don Tennant



BRUCE A. STEWART

# Give Us This Day Our Daily Grind

ASK MOST people in IT organizations if they'd like to work on something innovative, and the answer is a resounding "Yes!" Why, then, is so much of IT work just grinding out the same old stuff?

I hear lots of answers to that question, and I usually have something to say in reply. Here are some of the answers I have heard and my follow-on questions:

**"The user won't pay to replace anything, so we have to just keep fiddling with what we already have."** Have you shown users an economic case for replacement, or did you just assume they wouldn't pay under any circumstances? If you ask users to pay to replace a system just because the technology is old or not what you want to work on, you can expect to be turned down. But presenting a carefully crafted economic argument can get good results. If you're not a numbers person, work with someone who is.

**BRUCE A. STEWART** is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at **bruce@bastewart.com.**

**"We just can't get agreement among all the groups involved to do anything really interesting with this set of applications."** Have you shown the groups how much they do have in common? Even in the stormiest arguments between business units — the one, inviolate definition of "the customer," for instance — the two sides usually agree to 90% of the definition. By spotlighting the existing level of agreement, you make it easier for the people involved to shift toward more agreement. If you're not a good facilitator, find one and give that person control of the meetings.

**"We've got lots of good ideas, but the business won't let us into their thinking where we could do some good."** Have you undertaken a long-range plan to open those doors, or did you give up at the first rejection? Credibility is earned, not granted, and it doesn't flow to you because of the way the company is organized. After all, if your business clients came to you with ideas about how you could change the way you work, you'd be suspicious too, until they proved that they might actually have something worth listening to.

**"I'm in infrastructure, so I just do what I'm told."** Have you ever analyzed the patterns of problems you face and figured out what could be done to eliminate whole classes of problems? It's easy to feel disenfranchised — whether you are just another developer, operator or help desk clerk. But no one else sees what you see. Your users don't like recurring problems any more than you do, but they've often given up, thinking, "That's just the way it is around here." But it doesn't have to be — and users are usually receptive to change that'll make an old problem go away.

The right to be innovative requires that the basics get changed first. Credibility must be built. You have to show that you speak the language of business (economic or financial analysis), that you understand risk and how to manage it, that you can bring disagreements out in the open and work toward resolutions, and that you are willing to work at a long-term effort to improve the relationship.

The reward, however, is the chance to not just work on a project. Going successfully down this road will give you the once-in-a-lifetime opportunity to introduce innovation into the entire business and build all new technology. Why grind it out day after day? ◗

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### DAVID MOSCHELLA

# The Internet And the Free Market

THROUGHOUT ITS history, the IT industry has lived with the near-constant threat of potentially excessive supplier power. Right now, the debate is about how the Internet should be managed.

In one camp are those who argue that the Internet's underlying telecommunications backbone should be viewed as a quasi-public good that should operate more or less like a road, open equally to all. In the other are the major telecom players, which think they should be able to use their own property as they see fit and thus be free to favor one firm over another, as most other companies do.

If you have followed this issue, you know that both sides can make reasonable technical and legal arguments. The IT industry loves to tout the value of free markets, but in this case, the freedom to use a content-neutral Net and the freedom of companies to pursue their own ends are in conflict. Thus, this is less a matter of principle than of pragmatism. And here IT industry history argues for letting the market work, but under a watchful government eye.

In the 1920s and '30s, under the strong, sometimes ruthless leadership of Thomas Watson Sr., IBM crushed its many tabulating equipment rivals to gain a near monopoly position. Tom Watson Jr.'s success with IBM's S/360 family of mainframes ensured that this dominance would be maintained through the early decades of the computer era. Antitrust concerns regularly surfaced throughout this period, but eventually IBM's position weakened and that problem went away.

**DAVID MOSCHELLA** is global research director at the Leading Edge Forum, a Computer Sciences Corp. company. Contact him at **dmoschella@earthlink.net**.

Then, in 1981, IBM inadvertently passed the baton of near-monopoly power to Intel and Microsoft by putting their products at the heart of its PCs. The Wintel duopoly maintained a tight grip upon the industry and again raised the specter of antitrust. However, in the early 1990s, something totally unexpected happened. It wasn't surprising that networking became the IT industry's new center of gravity, but because of the Internet's academic and public-sector roots, it wasn't owned or even led by any one supplier. Some 75 years of near-monopoly IT industry power was suddenly and accidentally broken. Microsoft and Intel found themselves on the outside looking in.

While customers rejoiced, this unforeseen emancipation has never sat well with the major telecom players, which see themselves as the rightful heirs to the IT industry's monopoly tradition. They've always been more than a bit irked that their own plans for high-performance, tightly architected data networks were so thoroughly trounced by a loose and underfunded confederation of scientists, universities and user groups. Until recently, they have been quiet about this, but now they seem to be making their move.

There are now two main questions: Do the telecom companies have sufficient clout to change the way the Net works? And if they do, would their unlicensed pursuit of their own gain prove seriously detrimental to the development of the Web as a whole? While these threats can't be taken lightly, there are enough doubts to suggest that a wait-and-see policy is once again the best way forward. The major telecom players have never demonstrated that they can move quickly or deftly enough to work the Web to their advantage, and there is no point in government intervention before any real harm has been done.

Is the IT industry mature enough to have fully open competition without excessive monopoly power? It will be very interesting to find out. ◗

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# READERS' LETTERS

## The Data We Must Supply Is a Problem

**THE PROBLEM** isn't with public data being displayed on the Internet ["A Documented 'Uh-Oh,'" April 17]. The real problem is the data you have to make public to do business with the government; we were promised that Social Security numbers would never be used for identification purposes.

One way to deal with the problem would be to design forms so that personal information could be separated from public information. That way, the public form for a mortgage, for example, could be put on the Internet, and any personal data could be on a system that isn't publicly accessible.

**Chuck Ballard**

*Senior analyst, Allentown, Pa., chballard@compuserve.com*

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**WE NEED** to balance the public with the private in new ways. This is because of the connectedness of the modern world, where public information links to private information. We also need to separate the ability to be identified for legitimate purposes from the ability to touch our lives in unwanted ways. The laws need to be rewritten for this to work.

Unfortunately, a state's legislature is often the problem. Legislators rarely worry about keeping the laws current with social, technical or economic changes. Some documents have always been required to be made available in their entirety, but subsequent legislation (or budget cuts) has forced the same documents to be made available electronically with exactly the same appearance.

**David Lathrop**

*Data architect, Olympia, Wash., d.lathrop@comcast.net*

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## A Cable Guy Has Data Center Advice

**I WORK FOR** a cable telecommunications operator. As I read the article "Power Struggle" [April 3], I noticed some things that remain popular in data centers but have long since been abandoned in our facilities:

1. Raised floors: In any facility older than five years, they will be full of unused cable. Since the cables are hidden, no one removes them. We've gone to overhead cable racks. All cabling must be dressed when installed, is visible at all times and is easily removed. The use of this as an air plenum was identified in the article.

2. Closed racks: Where we have controlled access, we use open-frame racks, whether 23-in. C channel for telephony equipment or 19-in. cabinet style for data and CATV. No tops, no doors, no sides (except on each end of the bay), no fans (except in the equipment itself). Again, it forces you to be neat with wiring: It's all in view. The front of the bay gets the air from overhead, while the rear (wiring side) gets the return air draw.

3. AC power: If you need real reliability, explore negative 48VDC power. The sidebar "Plugging Into DC" shows one reason: DC converters are more efficient than AC power supplies. DC is an option for almost all rack-mounted servers from major manufacturers. Modern rectifiers used for DC plants have power-factor correction and other improvements that drive efficiency well above 90%. The downside is having to support these systems, but AC UPS systems aren't cheap either.

Just some ideas to explore for your next facility.

**Bret Peters**

*System support engineer, Tulsa, Okla., bret.peters@cox.net*

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**COMPUTERWORLD** welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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# TECHNOLOGY

05.22.06

### Desktop Defenses

Organizations are adding host-based intrusion prevention to their desktops to stop the threats that get through network- and server-based systems. **PAGE 30**

**QUICKSTUDY**

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**SECURITY MANAGER'S JOURNAL**

### To Manage the Smart Guys, Set Them Free

C.J. Kelly has three simple rules for managing the smart people under her. Step 1 is making sure they're smarter than she is. **PAGE 40**

Users like **ERIC FOOTE**, leader of both the Intel server and security groups at Detroit Medical Center, say they'll move to 64-bit computing cautiously.

Companies are in no hurry to switch to 64-bit computing, as they look for apps that work in the new environment.

# The 64-bit Evolution

### By Robert L. Scheier

MICHELLE ANDONIAN

**ERIC FOOTE IS CONSIDERING** 64-bit Windows servers for his growing base of 4,500 users. But he's in no big rush to make the shift from 32-bit computing. His first target application is Presentation Server 4.0 from Citrix Systems Inc., thin-client software that performs most application processing on the server, sending only changes in the user interface to the client's PC. "With the 64-bit technology, it looks like we can get 30% to 40% more users per server," says Foote, leader of both the Intel server and security groups at Detroit Medical Center.

"That helps keep our costs down from an infrastructure standpoint and a [software] licensing standpoint," he says, noting that his user base grows 20% each year.

Before moving to 64-bit, though, Foote is waiting for his hardware vendor, Hewlett-Packard Co., to release 64-bit blade servers at the right price and for his clinical information system — Cerner Millennium from Cerner Corp. — to be ported to 64-bit Windows. He's also waiting to see if older 32-bit applications will run as promised under 64-bit Windows and whether he'll have all the drivers he needs for his 64-bit environment.

*Continued on page 28*

_INFRASTRUCTURE LOG

_DAY 19: The business is, uh, coming apart. I.T. isn't in sync with the suits. No one's sure what they need to do. It's totally out of control.

_DAY 20: Gil fell into the crack. Maintenance is on it.

_DAY 24: I've got it. IBM Rational. A modular platform that lets us govern the entire development process and align it with our business goals. Now everyone's on the same page. Plus, we can ensure our software's in compliance and implement a service oriented architecture.

_Everyone's glad the crack is gone. Gil says his nightmares about "the dark place" are practically over.

IBM

Rational

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*Continued from page 26*

Like Foote, many IT managers are adopting 64-bit Windows servers only for memory-starved applications such as thin-client software, large databases and some Web servers. For other uses, they're waiting for more 64-bit applications and for the 64-bit version of Microsoft Corp.'s Vista server software, which is slated for release in 2007.

## Evolution, Not Revolution

A 64-bit processor and software written for it (such as the operating system and applications) can process more data and can use larger amounts of memory than a 32-bit environment. Of those two improvements, the more important by far is the ability of 64-bit operating systems and processors to access as much as 16TB of memory, compared with 4GB for 32-bit Windows. While 64-bit servers based on proprietary microprocessors and operating systems have long run high-end transaction-processing and scientific applications, 64-bit computing has come slowly to Windows- and x86-compatible microprocessors.

It has been a year since Microsoft released Windows Server 2003 x64 Edition and three years since Advanced Micro Devices Inc. (followed by Intel Corp.) unveiled mainstream 64-bit x86-compatible microprocessors. But most IT managers responsible for mainstream business applications are moving cautiously to 64-bit Wintel platforms.

"The impact of 64-bit computing from [Intel and AMD's mainstream 64-bit processors] will be gradual at best," according to a September 2005 report from IDC in Framingham, Mass. Because the processors can run many 32-bit applications without modification, the report said, "customers can phase in 64-bit hardware now but adopt 64-bit at the software level when it makes the most sense."

The report predicts that the installed base of 64-bit Windows server operating systems will grow from 1.3 million worldwide in 2006 to 10.5 million in 2009 but notes that "the pivot point for x86 64-bit adoption comes as products based on the Vista code base enter mainstream availability." Even John Borozan, group product manager for the Windows Server group at Microsoft, acknowledges that "it's probably two to three years before [64-bit Windows] becomes a mainstream choice."

Microsoft has tried to jump-start the 64-bit software market, promising both 32- and 64-bit versions of the Vista operating system. It has also released 64-bit versions of popular software, most notably its SQL Server 2005 database.

SQL Server is a particularly good candidate for gains under 64-bit, says John Enck, an analyst at Gartner Inc., with price/performance benefits so impressive "they could challenge SQL Server running on Intel Itanium for some database implementations."

With an estimated 50% of its Presentation Manager customers running into memory bottlenecks, Citrix has included both 32- and 64-bit support in its Presentation Server 4.0. Sumit Dhawan, director of product management, estimates that 10% to 20% of Citrix's customers are evaluating 64-bit operating systems and that as many 80% of new customers are considering them.

## Boost Memory First

**BECAUSE 64-BIT WINDOWS** servers eliminate the memory bottleneck imposed by 32-bit operating systems, Citrix recommends that customers who are upgrading to 64-bit servers for performance load up on memory before increasing the number of processors in their servers.

Citrix's recommended configuration for its thin-client Presentation Manager Server on 32-bit Windows uses a server with no more than two processors and 2GB to 4GB of memory, says Sumit Dhawan, director of product management. That's because as the server runs more user sessions, he says, "the system becomes memory-bound. As a result, the system isn't able to leverage the power of the larger systems, such as a quad processor, which is usually four times the price of dual-processor hardware."

For customers moving to 64-bit Windows, Citrix recommends adding more memory - which can be up to 32GB using 2GB memory chips to each of the 16 slots in the average server - to existing dual-processor systems and evaluating the effect of added memory on the number of users who can be hosted on each server, Dhawan says. Most customers, he says, see their performance bottlenecks disappear after moving to 8GB of RAM.

For customers who are ready to replace their server hardware, Dhawan recommends servers with four dual-core processors and up to the maximum - 64GB - that those four processors can access in a 64-bit world.

– ROBERT L. SCHEIER

## More Room for Virtualization

**FOR IT MANAGERS** who want to do more with less – meaning with fewer servers – virtualization and 64-bit technology are a great combination.

In a September 2005 report, IDC said Windows Server 2003 Enterprise Edition offered new benefits, "especially in conjunction with next-generation technologies such as [Microsoft's] Virtual Server and the future integration of the Windows Hypervisor."

Eric Foote, leader of the Intel server and security groups at Detroit Medical Center, says 64-bit Windows will be a good platform for VMware Inc.'s ESX Server, which he is already running for some applications.

For Karl Haas, director of Koehler Group's SAP Competency Center, virtualization and a switch from 32- to 64-bit Windows servers are two main goals for 2006. Using virtualization software on 64-bit servers will allow Haas to quickly start another instance of a crashed application server that will have the same IP address and network name as the failed server. This will reduce the need to manually configure his SAP applications to find the backup server, which would be necessary without virtualization, he says.

The ability to run the hypervisor (which manages the virtual machines) in 64-bit mode allows a virtualized Windows server to run many more virtual machines, says Gartner analyst John Enck, even if each of the virtual machines runs in 32-bit mode.

– ROBERT L. SCHEIER

The Koehler Group, a paper manufacturer in Oberkirch, Germany, has already seen the benefits of running its SAP R/3 manufacturing software and Microsoft's SQL Server 2005 in a 64-bit environment. The move in October 2003 cut database response time in half, from about 400msec per transaction to less than 200msec per transaction, says Karl Haas, director of Koehler's SAP Competency Center.

Its system of choice is an HP server based on Intel's Itanium, a RISC-based processor significantly more expensive than the more recent AMD and Intel 64-bit offerings. But since October 2005, Koehler has ordered only servers based on the less expensive x86 processors, which it is considering as a platform for SQL Server 2005. If the applications a customer needs are ready for 64-bit, says Haas, "there is no reason not to" upgrade, since the hardware costs no more than its 32-bit counterpart.

Another application that can benefit from 64-bit technology is data extraction, transform and loading — taking very large amounts of data from one database, ensuring its accuracy and integrity, and loading it into another database. Healthways Inc., a Nashville-based health care management firm, runs its multiterabyte Oracle data warehouse of patient information on an HP Itanium-based server, says Bert Chaffin, senior director of application development.

To move data from its claims utilization and pharmacy system into its analytical data warehouse, Healthways had run Informatica Corp.'s PowerCenter 5.2 on a Windows NT Server with four 32-bit processors and 3GB of memory.

"We were grossly underpowered" for data throughput, says Chaffin, because Informatica required "large intermediate data sets," which Windows NT saved to disk instead of the much faster system memory. The performance improvement from moving to 64-bit was "compelling"— as much as 10 times better in some processes, says Chaffin.

## Warnings

"There is no guarantee that all existing 32-bit applications will work in a 64-bit operating environment, so you have to test everything," warns Enck. Popular applications that rely on 32-bit drivers, such as the current version of Microsoft Exchange, also can't run under Windows Server x64. (Microsoft says Exchange 12, due late this year or early in 2007, will ship in both 32- and 64-bit versions.) Aside from thin-client, database and some Web serving applications, Enck advises customers to wait for Vista, which will ship in both 32- and 64-bit versions.

"It reminds me of some of the pain we had with 16-bit going to 32-bit," says Foote. "Microsoft is telling us it shouldn't be a problem in this case. I'm still in the 'I'll believe it when I see it' category."

When it comes to 64-bit business applications, he has plenty of company. ▸

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*Scheier is a freelance writer in Boylston, Mass. You can reach him at rscheier@charter.net.*

_INFRASTRUCTURE LOG

_DAY 8: I give up. Our infrastructure is so inflexible. Our apps and processes don't work together. We can't respond quickly to change. It's out of control.

_DAY 10: Gil had an epiphany. Duct tape. A few dozen rolls later and he's integrated everything, and everyone, by hand.

_DAY 13: I've found something better: IBM WebSphere middleware. It'll make our infrastructure more flexible by seamlessly integrating our apps, even those from SAP and Oracle. We can change processes in a snap, and IBM's industry-specific expertise helps enable a service oriented architecture.

_Hmmmmm...WebSphere. More powerful than duct tape.

IBM

WebSphere.

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# [DESKTOP] Defenses

Network- and server-based intrusion prevention may still be necessary, but companies are moving IPS down to the desktop level for better protection. **By Drew Robb**

RICHARD DOWNS

PATCHING IS supposed to secure your organization from the latest batch of malicious code. But try telling that to the state of Alaska's IT department. Staffers were working diligently to stay up-to-date on patching, despite the sheer size of the territory they serve and the limited bandwidth available in remote areas. But what if no patches existed?

"We were expending a huge amount of effort cleaning up the infections in our machines," says Darrel Davis, chief security officer for the state. "Some exploits were out there yet no patches were available."

Like a growing number of IT security managers, to address those problems, Davis deployed host-based intrusion-prevention system (HIPS) software on 19,000 desktops scattered throughout the state. This relatively immature technology brings the concept of defense right to the desktop. Its definition hasn't been settled upon, however, and several vendors advocate very different approaches (see story, next page).

At this point, no one knows if HIPS will do away with the need for the traditional security perimeter or become just one more element of an ever-expanding security arsenal. Is it the answer to so-called zero-day attacks — those incursions that exploit vulnerabilities not yet known to security professionals? At a practical level, what kind of HIPS tool is best?

"Desktop HIPS is still evolving rapidly," says Natalie Lambert, an analyst at Forrester Research Inc. in Cambridge, Mass. "The ultimate point we are heading toward is to prevent all zero-day attacks. But no vendor is there quite yet."

> **"The ultimate poin we are heading toward is to prevent all zero-da attacks. But no vendor is there quite yet.**
>
> NATALIE LAMBERT, ANALYST, FORRESTER RESEARCH INC.

## Catching Fire

A year ago, the hot debate in security was how intrusion-detection systems (IDS) were giving way to the broader concept of intrusion-prevention systems (IPS). At that time, network-based IPS was all the rage, whereas HIPS had an estimated 1% market-penetration rate, according to Gartner Inc. in Stamford, Conn.

But new attack routes into the enterprise — such as the recent Windows Metafile (WMF) vulnerability — have forced IT organizations to rethink their tactics. In a recent Forrester survey of 150 enterprise technology decision-makers, 28% of respondents said they plan to purchase desktop HIPS during

*Continued on page 32*

How paper from Oberkirch reaches the four corners of the globe. Without interruption.

The Koehler Group in Oberkirch, Germany is one of the world's largest makers of specialty paper, used to make everything from airline tickets to Pokémon cards. Managing their output takes continuous 24/7 production–and HP Integrity servers with Intel Itanium 2 processors. "We produce and ship over 1,500 tons of paper each day. A moment of downtime means production must stop," says Bruno O. Schwelling, CFO. "Itanium-based HP Integrity systems have virtually eliminated that fear." itanium-integrity.com

ITANIUM + INTEGRITY. ON AND ON AND ON.

*Continued from page 30*

the course of the year, says Lambert.

Alaska, however, is ahead of the game. It is most of the way through an implementation of Cisco Security Agent (CSA) from Cisco Systems Inc. Along with the 19,000 desktops — primarily Windows-based ones, with a few Linux and Macintosh systems — CSA also protects about 2,000 servers across dozens of data centers.

"We needed something to protect our desktops and buy us additional time to deploy patches," says Davis. "Our major selection criterion was that the tool had to be heuristics- not signature-based, so that it would analyze behavior with no need to download signatures."

CSA never needs updating, and Davis reports no trouble at all from recent exploits such as the Zotob worm. Software like CSA watches for behavior that would indicate spyware activity, such as a program opening a file in a temporary folder. It intercepts system calls between applications and the operating system, correlates them, compares the calls against a set of behavioral rules and decides whether to allow the action.

But that is by no means the only way such tools operate. Most include several functions: In addition to host intrusion prevention, they can incorporate adware protection, protection against buffer-overflow attacks, firewalling, various forms of system hardening, malicious mobile-code protection and even signature-based modules.

"HIPS includes a variety of approaches," says Lambert. "Everybody defines it differently."

For example, Stonehill College in Easton, Mass., deploys a tool that combines behavioral analysis with a signature defense. Proventia Desktop from Internet Security Systems Inc. (ISS) in Atlanta is used on about 2,500 seats campuswide, most of which are student laptops — 95% run Microsoft Windows XP and the rest are Macintoshes.

Stonehill CIO Gary Hammon tried his best with antivirus software and the Windows Update program. But the Wild West of campus computing rendered his efforts useless.

"Some colleges have attempted to dictate to their students, but you really can't control what they put on their laptops," says Hammon.

During the Blaster attack a couple of years ago, student computer infections reached epidemic proportions. IT had to shut off access from residence halls in order to protect the institutional systems. At that time, the college distributed CDs containing removal tools to students. These days, students have to register to get on the network and then download Proventia.

"Problems such as the WMF vulnerability have been a nonissue on campus," says Hammon. "If an infected computer is doing port scans or transmitting worms, we work with the individual or shut it off."

There are some similarities between CSA and Proventia, but the latter also includes regular updates — primarily for intrusion prevention but sometimes also for virus prevention. Unlike virus signatures, though, they need to be delivered only about once a month. Proventia also includes a firewall, buffer-overflow prevention and application controls.

### Start-up Alternatives

But there are more than one or two ways to deliver HIPS. PivX Solutions Inc. in Newport Beach, Calif., is based around a team of security experts who discover potential exploits and devise fixes before anyone even discovers the vulnerability. Like Proventia, it sends updates to users over the Web. This could be characterized as a hybrid form of system hardening.

Another start-up, Trlokom Inc. in Monrovia, Calif., has come out with a variation on traditional behavioral analysis. Instead of constantly scanning and analyzing every system call and application as CSA does, its SpyWall software zeroes in on the primary avenue of attack — via Web browser.

For example, SpyWall blocked the latest Internet Explorer createTextRange zero-day exploit without using any signatures. It does this by using a sandbox to isolate the browser from the rest of the desktop. Untrusted programs can be safely run in the sandbox, thereby restricting the interaction the browser has with the system. Any damage is contained, analyzed and eradicated.

One user of Trlokom is Chun Yu Works & Co. in Taiwan, a major producer of nuts and bolts that has a large manufacturing facility in Chino, Calif. It is an IBM RS/6000 shop using Windows PCs at the desktop level. Desktop infections were devouring IT staff hours.

"After we put in SpyWall, we didn't get any more infections for six months," says Robert Wong, network administrator. Chan Yu Works' experience suggests that HIPS is the next evolutionary step in network security.

First came enterprise-class antivirus tools and then firewalls, IDS and spyware protection. But with each advance, attackers managed to outwit the defenses.

Antivirus and spyware technology now appear to be morphing into back-line defenses, which are used to mop up employee goofs and safeguard against known threats. HIPS, on the other hand, is a new kind of front-line battlement to block the latest wave of threats.

That's why the likes of Symantec Corp., CA Inc. and Cisco are gobbling up desktop HIPS vendors: Symantec bought ManHunt, ISS acquired BlackICE, Cisco bought Okena, and CA now owns Tiny Software Inc. The next major release of CA Integrated Threat Management will include a firewall and HIPS. McAfee Inc. has put HIPS functionality into a suite, including antivirus and antispyware technology.

"In the long run, desktop HIPS will be absorbed by antivirus/spyware into one large client security suite," says Greg Shipley, chief technology officer at Neohapsis Inc., a security consulting firm in Chicago. "You'll have a single agent on the desktop that includes a personal firewall, HIPS, antivirus and spyware protection." ▸

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*Robb is a* Computerworld *contributing writer in Los Angeles.*

## What Is HIPS?

While many vendors are avidly promoting **host-based intrusion-prevention systems** for enterprise desktop protection, they don't agree on what the technology consists of. Some offer traditional network-based IPS tools that are also regularly updated with viruslike signatures to combat the latest attacks. Others prefer advanced firewall techniques – either desktop firewalls or memory firewalling. A few vendors focus on hardening the system so attacks can't make an incursion into the application core or Windows registry. Another camp uses various system-scanning techniques to detect and isolate suspicious behavior.

"The HIPS goal is to allow or deny types of traffic and detect and block system behavior that is anomalous," says Pete Lind, an analyst at security consultancy Spire Security LLC in Malvern, Pa. "The most common activities being monitored are program executions, file system activity, registry reads/writes and network operations."

Greg Shipley, chief technology officer at Neohapsis Inc., says he believes the HIPS market will take the same course as the intrusion-detection system market. After lengthy debate about the best method – a race between signature-based/packet-grabbing engines and traffic/protocol anomaly detection – modern IDS tools typically harness both approaches.

"For every HIPS protection model presented, we can look at what it is helpful with and, inversely, what it will miss," he says. "This is very similar to where the IDS debate was years ago: There are some things protocol anomaly detection will hit and others it will totally miss but signatures can catch."

– DREW ROBB

## Protected Territory

Here are a few areas for which host-based intrusion-prevention systems offer desktop protection.

**SYST[illegible]L[illegible]** Every operation in a computing environment begins with a system call. That's why it's critical for each system call to be examined based on its process, mode and action. HIPS can provide this level of proactive scrutiny.

**FI[illegible] YST[illegible]** System calls often involve opening files to access data. HIPS can ensure that this activity is not malicious and meets established policy.

**[illegible]Y TEM [illegible]** The registry maintains persistent configuration information about programs and is often abused to extend the life of an exploit. HIPS can ensure that the system registry maintains its Integrity.

**HOST INP[illegible]** I/O communications, whether local or network-based, propagate exploit code and malware. HIPS can examine and enforce proper client interaction with the network and its interaction with other devices.

– DREW ROBB

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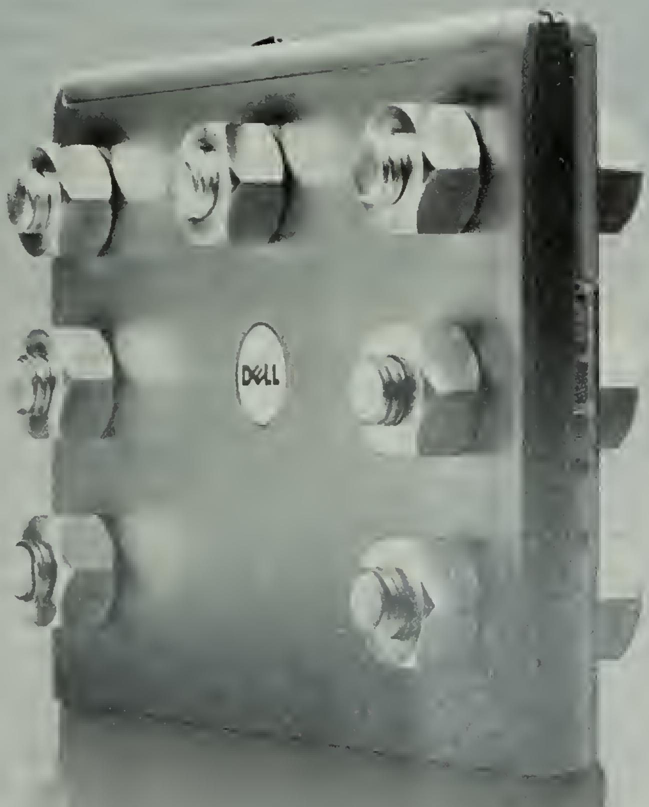

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DEFINITION

**Creative Commons** is a standardized set of copyright licenses with which authors, artists and other content creators can simply and easily grant limited rights to others. Whereas copyright protection reserves all rights automatically, Creative Commons licenses provide a more flexible range of protections and freedoms through a voluntary, "some rights reserved" approach.

BY RUSSELL KAY

QUICK STUDY

IF DATA is the fundamental currency of the Information Age, then the concept of intellectual property is the wallet that protects it from theft or misappropriation. Ensuring that protection — safeguarding the rights of content creators — is the purpose of copyright and patent laws, but in practice, their implementations can leave much to be desired.

Copyright law is so convoluted that it's sometimes hard to understand. In brief, copyright means that a work can't be used without the explicit permission — or license — of the copyright owner, with certain defined exceptions.

After a specified period of time after creation or publication, a copyright expires and the work enters the public domain, meaning it is available to everyone to do with as they wish.

Under most countries' current copyright laws, almost anything written, photographed or drawn is automatically copyrighted simply by being created, unless the creator has given those rights to someone else, created it as a "work for hire" or released it into the public domain. This copyright applies to rights for reuse, sale, adaptation, display, performance, remixing and publication in other media, although the development of new types of media unforeseen in the language of current laws has created opportunities for disseminating information but problems in protecting it.

Copyright protection has been widely, even wildly, extended in response to a world in which even proprietary information moves fairly freely. In an effort to improve copyright protection, Congress has made U.S. copyright law preemptive and very restrictive.

## Some Rights Reserved

Copyright gives such blanket protection that virtually any subsequent legal use by someone else requires specific permission from the copyright holder. While authors or artists are free to grant rights as they see fit, doing so on a case-by-case basis may be impractical or undesirable. In any event, a license is a legal document that is likely to require drafting or review by a lawyer if the protection is to be enforceable in a court of law.

One response to this situation is Creative Commons (CC), a set of boilerplate templates in the form of identifiable and readable license statements that make it easy for a creator to release particular rights under clearly specified conditions. This allows a creator to protect his basic rights while notifying potential users of what they can and can't do with the author's intellectual property.

Depending on the conditions — allowing unlimited use for noncommercial purposes, for example — a third party may be able to legally use the work without having to contact the owner for permission each time.

## How CC Works

To use the online Creative Commons system (*www.creativecommons.org*), creators simply select which specific restrictions, attributes or modifications they wish to assign to a creative work. The site then produces the appropriate CC license and provides it in three formats.

The **Commons Deed** is a short document that clearly states the licensing rights in plain English and references the legal code.

The **Legal Code** is a much longer, complete statement that describes the licensing conditions in detail.

**Digital license code** is HTML that can be included in a Web site. This code also generates an accompanying "Some Rights Reserved" button and a statement clearly indicating that the work is protected under a CC license. The real advantage of the digital code is that it can be used by search engines. For example, Yahoo Inc. offers a Creative Commons search that identifies works and recognizes any licensing conditions.

If the author wishes to release all rights or give the work to the public domain, then the digital code will automatically generate a "No Rights Reserved" button. The button is designed to act as a notice to people who come in contact with the work that exclusive rights to reproduce it have been relinquished under the applicable Creative Commons license.

For off-line works, such as printed material, the creator includes a statement such as "This work is licensed under the Creative Commons [insert description] License." Off-line works obviously do not include the metadata, and search engines can't identify their CC status automatically.

## Expanding Acceptance

Not surprisingly, since the idea for Creative Commons came from a Stanford University law professor, the first CC licenses were created with U.S. law in mind and might be unenforceable in other legal systems. The iCommons (International Commons) project is adapting CC legal wording to meet the requirements of other countries. As of November 2005, 46 countries and regions had joined that initiative and the group had completed licenses for 26 countries.

The first legal test of CC occurred in the Netherlands earlier this year, according to legal Web site Groklaw.net. MTV personality Adam Curry had posted photos of his daughter on the photo-sharing site Flickr.com. A Dutch gossip magazine published the photos without authorization, even though they were covered by Flickr's Creative Commons Attribution-NonCommercial-ShareAlike 2.0 license. Curry sued for copyright infringement, and the Dutch court ruled that a CC license is binding.

In 2004, the British Broadcasting Corp. decided to base its Creative Archive usage license on the CC model. The license covers all of the BBC's vast archive of radio and television programs. ▸

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*Kay is a* Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

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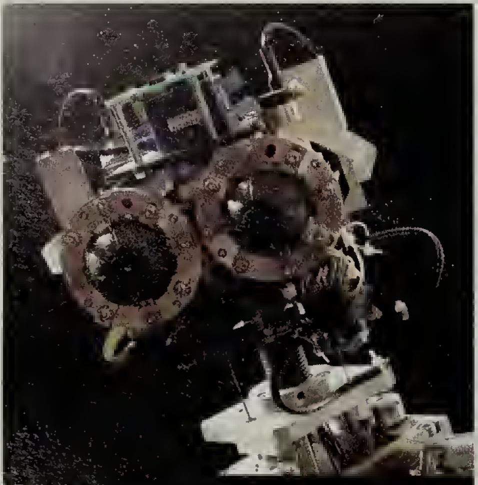
# Geek's Garden

A STROLL THROUGH THE TECHNOLOGY LANDSCAPE



Babybot learns via environmental interaction.

ADAPT

## Babybot Helps Researchers Explore Human Perception

**BABYBOT,** a robot modeled on the torso of a 2-year-old child, is helping researchers take the first tottering steps toward understanding human perception, possibly leading to the development of machines that can perceive and interact with their environments.

Researchers in the European Commission's Artificial Development Approach to Presence Technologies (ADAPT) project used Babybot to test a model of the human sense of "presence," a combination of senses like sight, hearing and touch. The work could have enormous applications in robotics, artificial intelligence (AI) and machine perception, they say.

"Our sense of presence is essentially our consciousness," says Giorgio Metta, ADAPT project coordinator and assistant professor at the Laboratory for Integrated Advanced Robotics at Italy's Genoa University.

Imagine a glorious day spent lying on a beach drinking a piña colada, or having any powerful, pleasurable memory. A series of specific sensory inputs is essential to the memory. In the human mind, all these sensations combine to create the total experience. It profoundly influences our future expectations, and each time we go to a beach, we add to the store of contexts, situations and conditions. It is the combination of all this data and its cumulative power that the ADAPT researchers sought to explore.

"We took an engineering approach to the problem," says Metta. "It was really a consciousness for engineers, which means we first developed a model and then we sought to test this model by, in this case, developing a robot to conform to it."

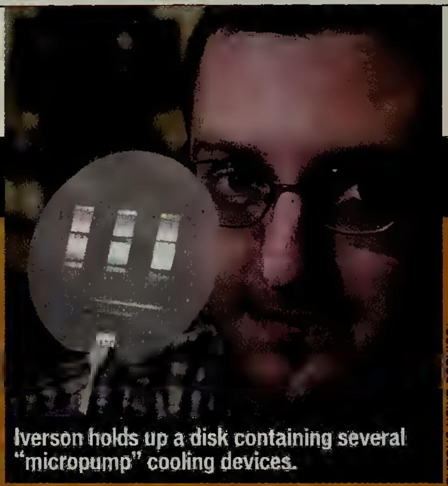
They developed a "process" model of consciousness, says Metta. This assumes that objects in the environment are not real physical objects as such; rather, they are part of a process of perception.

The practical upshot is that while other models describe consciousness as perception, cognition and then action, the ADAPT model sees it as action, cognition, then perception. And it's how babies act, too. The team used Babybot to test the model, providing a minimal set of instructions – just enough for Babybot to act on the environment. For the senses, the team used sound, vision and touch and focused on simple objects within the environment.

By simply interacting with the environment, Babybot did its engineering parents proud when it demonstrated that it could learn to successfully separate objects from the background. Once the visual scene was segmented, Babybot could start learning about specific properties of objects that would, for instance, allow the robot to grasp them. Grasping opens a wider world to the robot and to infants.

"Ultimately, this work will have a huge range of applications, from virtual reality, robotics and AI to psychology and the development of robots as tools for neuroscientific research," concludes Metta.

## GROVES OF ACADEME



Iverson holds up a disk containing several "micropump" cooling devices.

PURDUE NEWS SERVICE/ DAVID UMBERGER

### Purdue Scientists Produce Micropump To Cool Chips

**ENGINEERS AT** Purdue University have developed a "micropump" cooling device that fits on a computer chip and circulates coolant through channels etched into the chip.

Innovative cooling systems will be needed for future computer chips that will generate more heat than current technology, says Suresh Garimella, a professor of mechanical engineering and director of Purdue's Cooling Technologies Research Center. A decade from now, chips will likely contain upward of 100 times more transistors and other devices than the chips currently in use, Garimella says.

The new device has been integrated onto a silicon chip that is about 1 cm square. Garimella, doctoral student Brian D. Iverson and former doctoral student Vishal Singhal published an article about the device in the May issue of *Electronics Cooling* magazine.

"Our goal is to develop advanced cooling systems that are self-contained on chips and are capable of handling the more extreme heating in future chips," says Garimella.

The prototype chip contains numerous water-filled microchannels – grooves about 100 microns wide, or about the width of a human hair. The channels are covered with a series of hundreds of electrodes, which receive varying voltage pulses in such a way that a traveling electric field is created in each channel. The traveling field creates ions, or electrically charged atoms and molecules, which are dragged along by the moving field.

The traveling electrical field pulls the ions forward, causing the water to flow and inducing a cooling action, Garimella says.

The research team is planning its work ahead. "One big challenge is further developing mathematical models that are comprehensive and accurate, because this is a very complicated, dynamic system," says Garimella. Other challenges include sealing the tiny channels to prevent water leakage and designing the system so that it could be manufactured under the same conditions as semiconductor chips.

## DIFFERENCE ENGINES

### Click-Clack Calculations

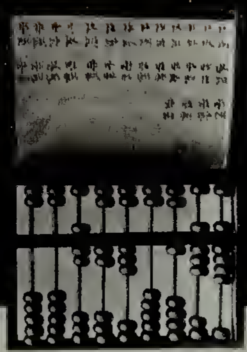
A reconstruction of a Roman abacus

**OF ALL THE MECHANICAL** computing machines ever devised, the longest-lived in terms of actual use are the bead-based tools English speakers call the abacus. Most researchers trace abaci back to the Babylonians, with estimates ranging as far back as 2,400 B.C. Using a Babylonian abacus involved moving beads along lines engraved in a slab of stone. The Roman abacus, which predated the Chinese *suanpan* by several centuries, was a sand-covered wax tablet, marked table, or grooved table or tablet made of a range of materials, from wood to bronze. It was, of course, designed to calculate using Roman numerals. Some sources mention the use of an abacus called a *Nepohualtzintzin* in ancient Aztec culture.

Because they are still used in many parts of the world today, the most recognizable forms of the abacus are devices consisting of beads strung on wires (or wooden rods) attached to a wooden frame, exemplified by the *suanpan*, the Japanese *soroban* and the Russian *schoty*. The *suanpan* dates back at least to 200 B.C. in China. It was introduced in Japan in the 15th century A.D., and by the 19th century the Japanese had developed the *soroban* with improved functions. The *schoty* didn't appear until the 17th century A.D. and was designed to count kopeks and rubles.

Simple counting boards are still used in some Chinese and Japanese elementary schools, but Chinese-style abaci can be used for functions other than counting. And some very efficient techniques have been developed for the *suanpan* to do multiplication, division, addition, subtraction, square-root and cube-root operations at high speed.

A Chinese-style abacus



While they are slowly being replaced by speech-enabled calculators, abaci have been commonly used by the visually impaired. The *suanpan* is still the most common calculating tool in rural China, and the *soroban* and *schoty* are still used in remote areas of Japan and Russia, respectively.

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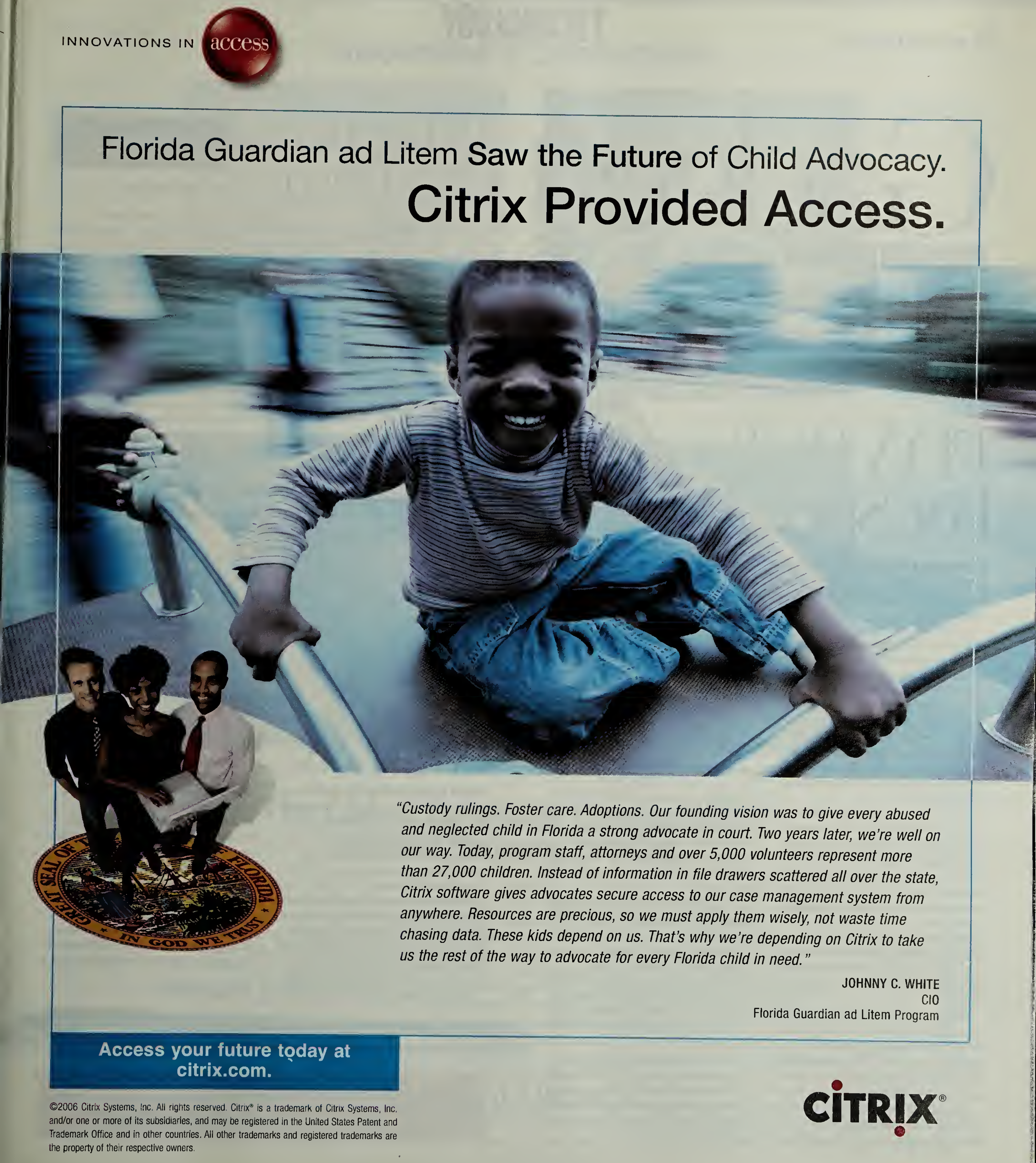

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# Gadget TECH

BY MICHELLE JOHNSON

## PDA Built For Speed

The BlackBerry 8700g

**T-MOBILE USA INC.'S** new BlackBerry 8700g from Research In Motion Ltd. is certainly a looker. But what's it packing behind its stylish makeover? Answer: Speed.

For starters, the 8700g is powered by an Intel PXA901 XScale processor running at 312 MHz. It's got 64MB of flash memory, 16MB of synchronous dynamic RAM and runs on T-Mobile's EDGE (Enhanced Data Rate for GSM Evolution) high-speed network.

The 8700g borrows some of its styling from the slimmer, more phonelike BlackBerry 7100 line, but it retains the traditional blocky BlackBerry shape and ease of use. The quadband GSM/GPRS phone can work overseas and supports Bluetooth 2.0.

At 4.7 oz., the 8700g is just a tiny bit lighter and smaller than the BlackBerry 7290, which weighs 4.9 oz. Its 35-key backlit QWERTY keyboard is slightly smaller too, and the keys are closer together. I found it OK to use, but good luck to folks with larger hands or those who are used to the older-style keyboard, because this one is pretty tightly packed.

More impressive is the 8700g's bright, 65,000-color, 320-by-240-pixel QVGA display. A new built-in light sensor automatically adjusts the screen's brightness, depending on the ambient light.

RIM has expanded instant messaging options beyond BlackBerry Messenger, adding support for AOL Instant Messenger, Yahoo Messenger, MSN Messenger and ICQ. You can also download Google Talk and send messages via Short Message Service and Multimedia Messaging Service.

So, what about e-mail, BlackBerry's bread and butter? Of course, the BlackBerry 8700g supports push e-mail and access to corporate data via BlackBerry Enterprise Server for Microsoft Exchange, IBM Lotus Domino and Novell GroupWise. Personal accounts can be configured with the BlackBerry Internet E-mail application to retrieve mail from services such as Yahoo, AOL and Comcast. Yahoo mail users now get real-time mail delivery.

I found that Web browsing and downloading applications over the T-Mobile EDGE network on the 8700g was indeed zippy. As a phone, the 8700g performed fine. Calls were clear, and the speakerphone was impressively loud.

BlackBerries are known for long battery life, and the 8700g is no exception, even with the bright new screen and beefy wireless features running. It's rated for four hours of talk time and 16 days of standby.

The 8700g comes packaged with a travel charger, a holster, a headset, a USB cable and a CD containing BlackBerry Desktop software. T-Mobile is hawking the 8700g for $299 with a two-year service plan and $349 with a one-year plan.

## Whopper Of a Flash Drive

The Kanguru Flash Drive Max

**GENERALLY, YOU DON'T** think "supersize" in relation to a flash drive, a.k.a. the "storage on a stick" that has replaced floppies, CDs and other removable memory.

But it looks like Kanguru Solutions in Millis, Mass., is now home of the whopper, having unleashed the Kanguru Flash Drive Max in 16GB, 32GB and 64GB versions. The storage capacity isn't the only thing oversized about these drives. They're priced at $800 (16GB), $1,500 (32GB) and $2,800 (64GB).

At those prices, obviously, this line is not geared toward the crowd toting around a few files on gizmos dangling from key chains and neck straps. A company spokeswoman confirmed that this product is aimed at business and government users looking for large amounts of storage in a small device.

The drive is about the size of a pack of gum – larger than some other flash drives but still pocket-size and ultraportable.

Aside from the whopping amounts of storage, the Flash Drive Max sports NAND flash memory, USB 2.0, 9MB/sec. read and 5MB/sec. write speeds, and a write-protect lock. It works with Windows 98 Second Edition and higher, Mac OS 8.6 and higher, and Linux kernel 2.4.1 and higher.

In most cases, you can just plug in the Flash Drive Max and the system will recognize it. The exception is Windows 98 SE, which requires a driver download. Using the included KanguruShield security software (Windows only), you can format the drive, partition it or make it bootable, as well as password-protect either the full drive or individual partitions. Flash Drive Max supports FAT, FAT 32 and non-traffic-sensitive formatting.

If the Flash Drive Max is too rich for your budget or overkill for your needs, Kanguru has also released a new flash drive that's about the size of a quarter. This Kanguru Flash Drive also comes bundled with the KanguruShield software and is available in capacities ranging from 512MB ($33) to 8GB ($400).

## Wand-Size Scanner For Road Warriors

**SEEING AS THE PAPERLESS OFFICE** hasn't quite materialized, scanners continue to be standard workplace equipment. That's great if you happen to actually be in the office, but say you're meeting with a vendor at a trade show, you've signed a contract, and you need a copy to take back to your boss or office.

That's the kind of scenario that Planon System Solutions Inc.'s DocuPen RC800 ($300) is aimed at simplifying. Forget running around the showroom floor to find a copier or fax machine. Instead, whip out the wand-size DocuPen, place it on a sheet of paper, and slowly slide it down the page.

The file is stored either on the device's 8MB of flash memory or on an optional microSD card.

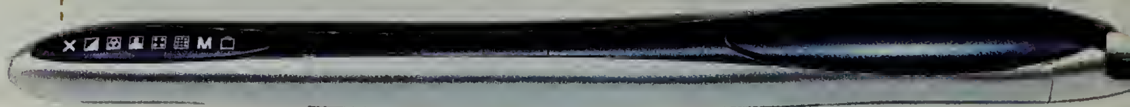
The RC800, which is shaped more like a wand than a pen, stands out as a portable full-page color scanner. It will scan in four modes: 24- and 12-bit color, gray scale and monochrome.

The RC800 is a model of compact design, weighing only 2 oz. It's a slim 8.9 in. long and has a girth of 0.5 in. Tiny rollers along the bottom edge help to guide the unit down the page.

The RC800 is powered by a lithium-ion battery, rechargeable via the included USB cable. The package also includes a leather carrying case, a CD that contains drivers and manuals, and DocuPen and Nuance PaperPort LE software to handle optical character-recognition tasks. It requires Windows 2000 or higher.

Note that this device doesn't need to be connected to a computer to scan, so it doesn't require you to tote around a laptop. It may seem a little crazy to spend $300 for a gizmo just to scan documents. But if you or your colleagues are out of the office more than you're in, and portability is your goal, the DocuPen is definitely worth a look. ▸

The DocuPen RC800



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# To Manage the Smart Guys, Set Them Free

**The secret is to hire really bright people in the first place. Then leave them alone so they can get creative. By C.J. Kelly**

I HAVE TWO vacancies in the information security department, and I've been hunting for good candidates for what seems like months and coming up empty. But my search got me thinking about how I manage the people I have. I don't want to lose any of them.

**SECURITY MANAGER'S JOURNAL**

I've been a manager for about 16 years. At first, I was the supreme micromanager. I wanted daily status reports. I looked over shoulders. I constantly asked questions.

Looking back, I'm embarrassed at how poorly I managed people. By the time I was managing security people, I had learned a lot.

First of all, these guys (that's an all-inclusive, male-and-female "guys") are really smart. Most are smarter than their manager, so pretending you know everything is an unwise approach. You should know enough to converse intelligently and to understand the issues. But you can't know everything about every device on the network. You just need to know which security issues should be addressed and have a good idea of how to address them.

I used to think that a good manager of technical people has to be fairly technical herself. But I've found that no matter how hard I try, I can't keep up with the pace of technological innovation. Every innovation has a security component.

If I spend a weekend learning the nuts and bolts of designing a customized virtual private network, I fall behind on understanding the security implications of Microsoft's latest operating system.

So, here are my three simple rules for managing the smart guys.

## No. 1: Hire Really Good People

What is a "good hire"? That varies depending on what you want. I want people I can trust. Trust implies all kinds of things: commitment and dedication to the job, to the agency, to the project and to the team. I want to be able to trust that my employees are going to show up every day, work hard and stay all night when the network goes down.

I want my employees to be dedicated to teamwork, meaning that I can trust them to help out a colleague and not undermine others' work. They must tell the truth, the whole truth and nothing but the truth, no matter how unpleasant it may be.

How do I determine that someone is trustworthy? Job history tells a lot. References are helpful. But most of all, I rely on looking the applicant squarely in the eye and evaluating what I get back. Is that fuzzy logic? It certainly is a gut-instinct thing.

> Managers often don't understand that creative thinking and intellectual curiosity are what it takes to solve complex problems.

You can usually spot a fishy situation if you're paying attention. Someone who lies on a résumé, doesn't have good references, doesn't pass a background check or just can't back it all up in an interview is not to be trusted.

Give candidates plenty of opportunities to talk and maybe bury themselves. Ask questions like, "What was your best and worst experience in doing security work?" What you're looking for is information on how the candidate handles pressure and whether he tends to blame others or accept responsibility.

I don't waste my time asking things like, "Show me the command lines to configure a DMZ on a Cisco Pix firewall." Anyone can look that up in two seconds. The ability to store command lines in your head is indicative of nothing other than a great memory. Besides, most of these guys have a direct link from their brains to the keyboard and won't necessarily be able to come up with the answer in an interview situation.

After trustworthiness, I look for intelligence. I want someone who can work through a complicated scenario independently and come up with a good answer or a number of options, with all the pros and cons thought through.

## No. 2: Set Them Free

Once you have the right people in place doing the things they are good at, leave them alone. Managers often don't understand that creative thinking and intellectual curiosity are what it takes to solve complex problems. These processes function poorly under time limits and rigid schedules. Yes, we have to meet deadlines. But creative problem-solving can't be squelched, stomped on or denied if you want to solve real problems.

My only role is to check in every so often to see if there's anything I can do for the smart guys. I also enjoy the conversations I have with them and debating the pros and cons. Then I go away, hoping I have sparked more creativity and curiosity.

This is how you get good solutions and happy smart guys.

## No. 3: Give Credit

Never, ever take credit for what the smart guys do. I recall one time racing out of the office to catch a plane. I would be gone for over a week, but I had a problem I hadn't been able to solve. None of my guys had been able to solve it either, so I had bought a few books on the topic. Unfortunately, I hadn't had time to read them all. As I left, I tossed one of the more informative books to one of my senior guys and asked him to figure it out. Later, he e-mailed me a perfect solution. I told him to go ahead and take it to the CIO.

I recall feeling a tad jealous that he got all the credit. But then I thought to myself, "Whoa! Isn't this what you had hoped for? Isn't this why you hired him?" So, I congratulated him and bragged about him to my boss. Today, he remains one of the most honest and intelligent guys I know.

Is it possible that three simple rules can make you a great manager? Yes. Hire the right guys, set them free, and give them all the glory. It works. Now back to finding some really smart guys! ▸

### WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

## SECURITY LOG

### Execs Question Sarb-Ox's Worth

Two years of compliance with the Sarbanes-Oxley Act have shored up corporate accounting practices, but the costs haven't balanced out with the benefits gained. That's the general consensus of a wide range of business executives and auditors who gathered in Washington for an all-day roundtable hosted by the U.S. Securities and Exchange Commission and the Public Company Accounting Oversight Board. The SEC and PCAOB arranged the roundtable to solicit feedback about Section 404 of the legislation, which requires companies to attest to the effectiveness of internal controls put in place to protect financial reporting systems and processes.

### Kodak Settles Spam Charges

Kodak Imaging Network Inc., an online photo-sharing service once known as Ofoto, has agreed to pay $26,331 in penalties for violating the federal CAN-SPAM Act. The Federal Trade Commission charged that the company violated the law by sending 2 million messages that didn't provide a physical postal address or a means of opting out of receiving future e-mail.

### Searchers Often Hit Malicious Sites

A study from McAfee Inc. found that users visit malicious sites some 285 million times a month by clicking on results returned by the five major search engines, Google, Yahoo, MSN, Ask.com and AOL. The study also found that sponsored links are nearly three times as likely to bring users to malicious sites as regular search results.

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## BRIEFS

### Aten Debuts 32-Port Enterprise Switch

■ Aten Technology Inc. in Irvine, Calif., has announced a 32-port, eight-console enterprise-class KM0832 CAT5 Matrix KVM switch for midsize and large networks. The product will be available by late July. It will enable systems administrators to manage more than 8,000 computers by daisy-chaining and cascading the units, according to the company. The KVM switches, which can be used for local or remote server access from up to 500 feet away, will sell for between $5,000 to $5,500 each, Aten Technology said.

### Sonexis Offers Conferencing App

■ ConferenceManager 6.1 is now available from Tewksbury, Mass.-based audioconferencing vendor Sonexis Inc. Included in the latest release of the integrated, Web-based host control panel of ConferenceManager is ActiveTalker, a feature that visually identifies who is speaking, allowing the conference host to easily moderate the discussion or spot disruptions from noisy connections, according to the company. The new version is also capable of integrating with Microsoft Active Directory. Pricing starts at less than $950 per port.

### Palm Launches Treo 700p Smart Phone

■ Palm Inc. in Sunnyvale, Calif., has announced the Treo 700p smart phone, which runs the Palm OS and has Evolution Data Optimized broadband wireless capabilities. Like the Treo 700w, the new product runs the Windows Mobile operating system and has a 1.3-megapixel digital camera and 128MB of memory. Users with laptop PCs can also use the 700p as a wireless modem via USB or Bluetooth wireless technology. Sprint Nextel Corp. and Verizon Wireless, which will offer the device, have not announced pricing and availability.

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CURT A. MONASH

# Bulletins From the Database Management Front

EVERY writing format has its limitations, including this somewhat stovepiped, standalone one. To partially compensate, I'll try something different this month: updates of several of my past columns in the area of database management.

Database management system services represent where I think enterprise data architectures are going over the next two to 20 years. (Exception: small companies that buy complete application systems from single vendors.) DBMS2's core principles are:

**CURT A. MONASH** is a consultant in Acton, Mass. You can reach him at **curtmonash@monash.com**.

**1. Enterprise databases will never be centralized and will never have simple or comprehensive designs.** This has been true for decades, and will long continue to be, for manifold reasons. Among them: Enterprises have legacy applications and get new ones when they acquire companies. They have packaged apps from multiple vendors; software as a service may accelerate this trend. New kinds of analysis are being invented all the time, requiring new kinds of data to be tracked that weren't envisioned in the original schemas and that may be more opinion than "facts" anyway. And really sealing the case against centralized DBMS is the fact that in a wide range of cases, focused data management products greatly outperform general-purpose ones in speed, cost or effectiveness.

**2. Applications will be built on top of simple Web services.** Today's XML-based Web services may be superseded by something similar yet sleeker. But the general idea is a winner — databases and applications alike will be increasingly modularized and accessed via simple data-oriented interfaces. And while I'm not sure that the current buzzphrase "composite applications" will or should survive, I wholeheartedly endorse its general idea.

**3. Eventually, these Web services will be managed through appropriate repositories.** This part of the DBMS2 story will come fully true only in the long term. "Active repositories" have produced a long list of failures, from IBM's AD/Cycle to Oracle's Sedona and beyond. Really strong Web services directories shouldn't be expected until sometime in the next decade.

As soon as I introduced it in my August 2005 column "Time for a New View of Database Management," the DBMS2 idea met scathing criticism from a handful of relational database purists. But those who do the real IT heavy lifting have been much friendlier to it. Although using different terminology, SAP has long been saying very similar things, as spelled out at *www.dbms2.com/2005/12/09/36/*. IBM is also, at least in part, favorably inclined. IBM, however, is in no way promising a comprehensive or widely adopted services repository in any kind of short time frame.

I'll conclude with some quick updates on the broad variety of focused data-management technologies. I've posted more detail on each of these subjects at *www.dbms2.com*.

■ In my January column, "XML Storage: Oracle Should Be Hearing Footsteps," I praised the potential of native XML data storage. News from Microsoft and IBM tests is somewhat mixed. Both vendors stick by their "schema flexibility" stories, and they cite success in complex data interchange for the insurance industry. But the snazzy derivatives-trading app for IBM's Viper hasn't had the performance kinks worked out yet. Meanwhile, text/XML specialist Mark Logic Corp. is working hard to expand the custom publishing market.

■ Back in relational land, MySQL has announced a flurry of new transactional engines. A particularly interesting one comes from hybrid memory-centric embedded DBMS vendor Solid Information Technology. And each time I ask, SAP tells me good things about MySQL's progress toward SAP certification.

■ Data warehouse appliances continue to show strong early growth. DATAllegro has joined Netezza in the club of appliance vendors with actual announced customers. Interestingly, DATAllegro's and Netezza's products rely on open-source DBMS technologies PostgreSQL and Ingres, respectively.

■ In November 2005, "Managing Data at RAM Speed" pointed out the huge potential of memory-centric data management, in online transaction processing and analysis alike. I have expanded that into a white paper, available at *www.monash.com/MCDM.pdf*, with a lot of added detail on both the software and hardware sides.

■ Cogito adds a new wrinkle to data management: a graph-theoretic model that's well suited for relationship analytics, a.k.a. social network analysis.

■ As for InterSystems' Caché, the impressively performing object-oriented DBMS that was the focus of my May 2005 column, "Looking Beyond the Big Three," I have little new to report. I actually visited the company earlier this month, but the briefing didn't go well at all. In fact, the entire building had to be evacuated because of a fire . . . which turned out to be in the engine of *my* car; *www.monashreport.com/2006/05/13/burning-issues-in-an-analysts-life/* tells the tale. ◗

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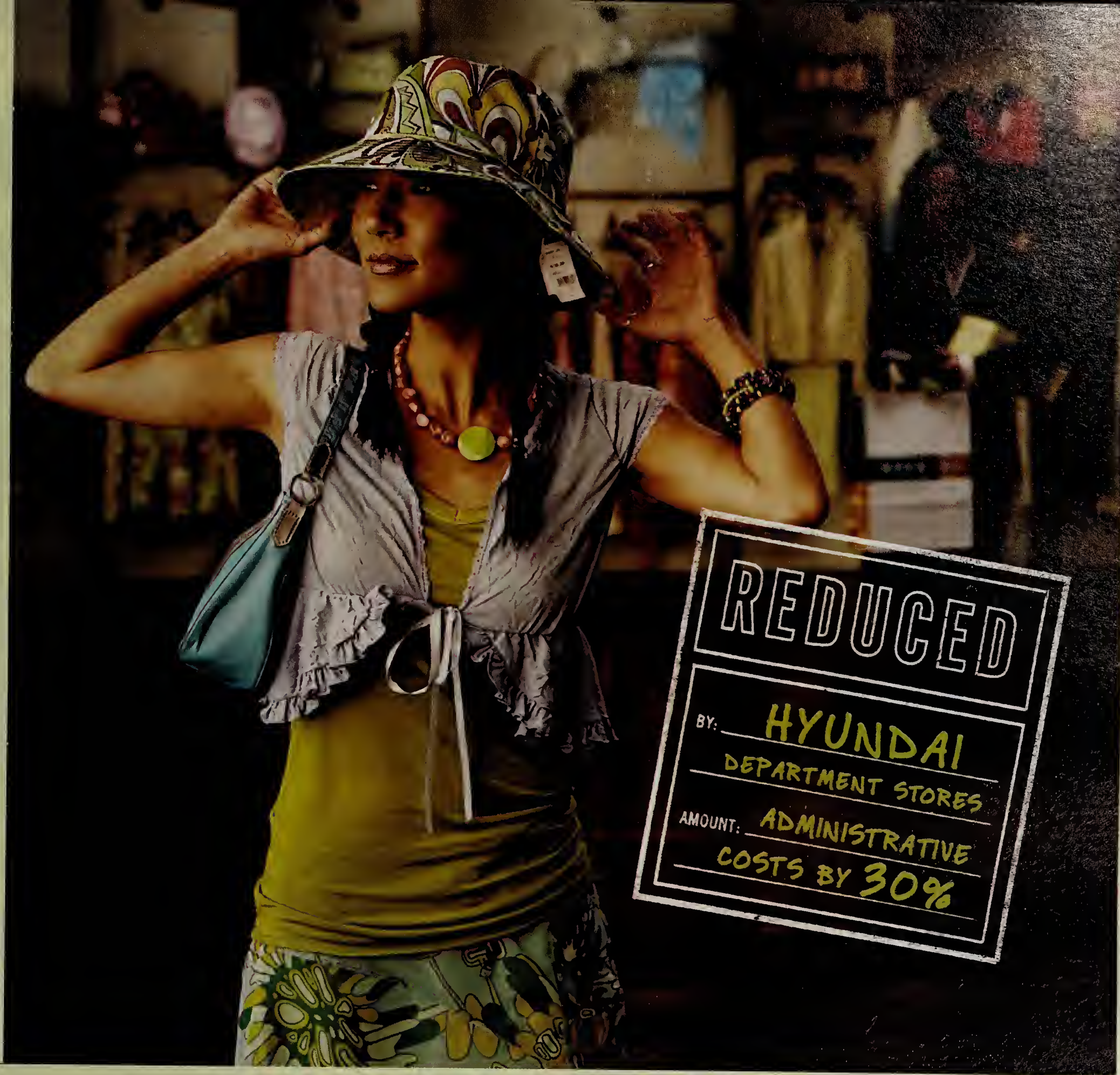
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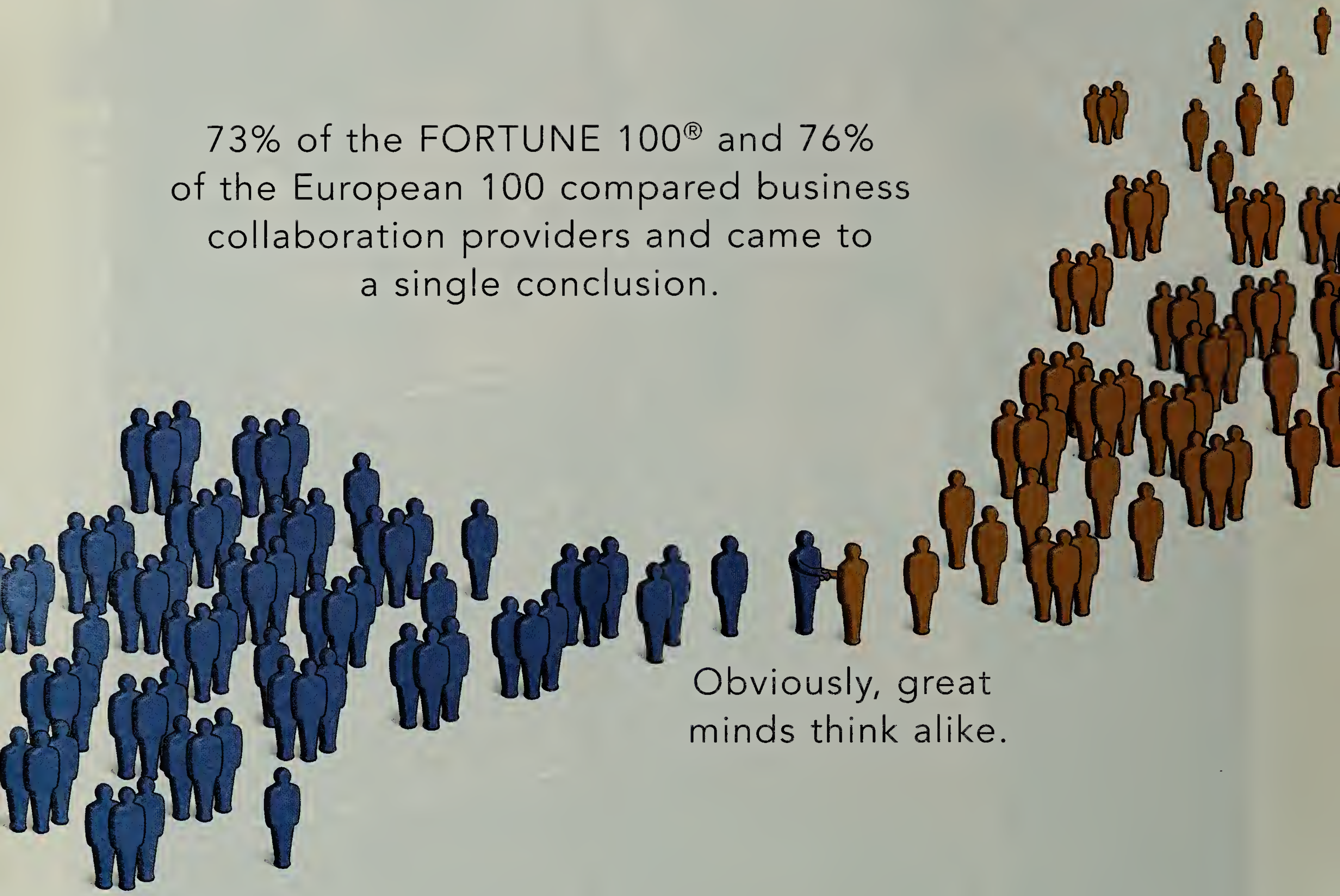

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# MANAGEMENT

05.22.06

**Q&A**

### On Message

Most CIOs don't realize what bad leaders they are, says author John Hamm. But they can improve their skills dramatically by delivering clear messages in five crucial areas. **PAGE 48**

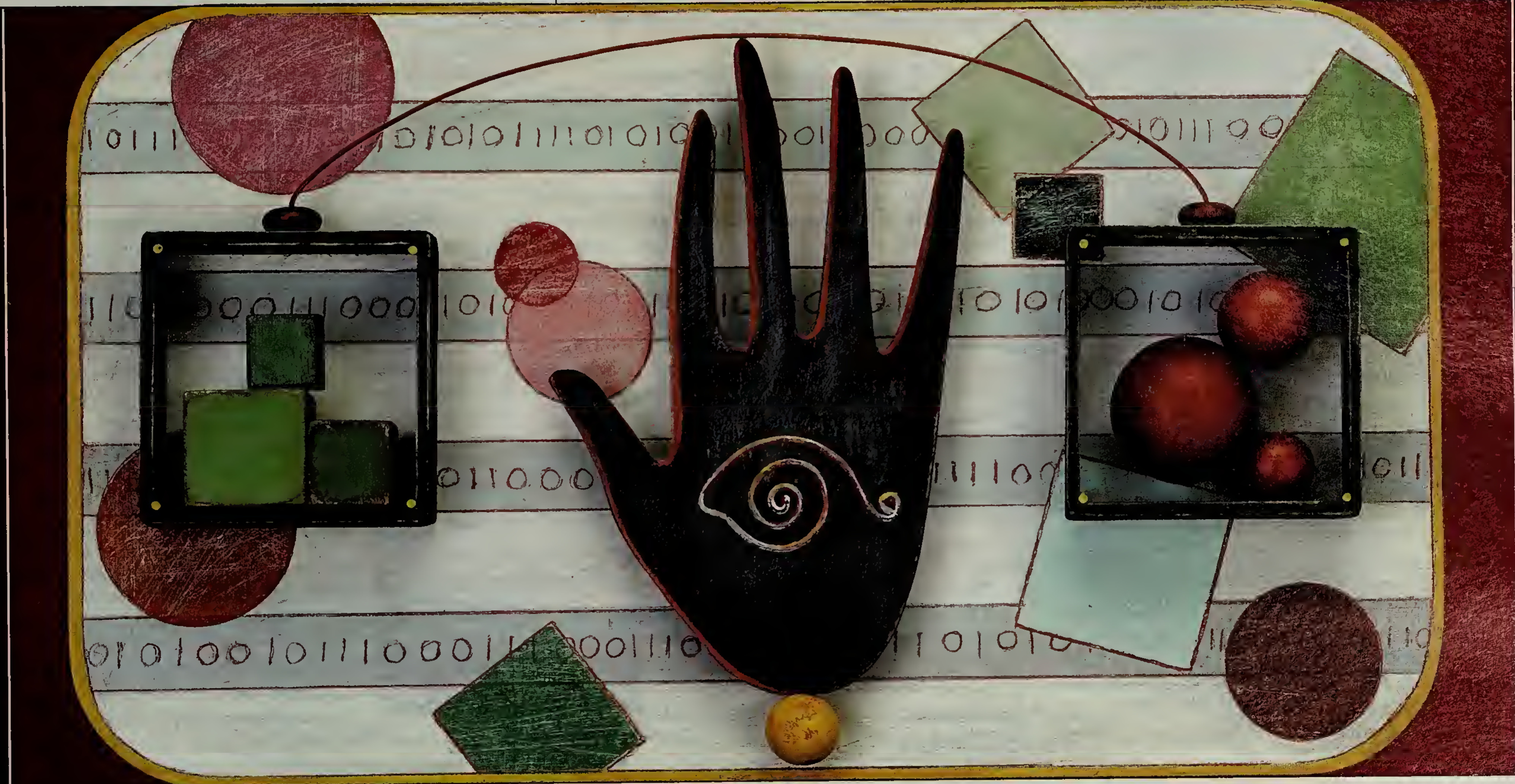
### How to Write a Statement of Work

It's a linchpin of any project, but writing a statement of work is tricky. Here are some tips to help you get it right the first time. **PAGE 50**

**OPINION**

### Are We Multitasking Ourselves into Chaos?

Today's IT professionals send instant messages during meetings and e-mail while listening to conference presentations. Barbara Gomolski wants to know if we're doing so many things at once that we don't do any of them well. **PAGE 60**



MARIA RENDON

Smart companies ensure that they have balanced portfolios of low-, medium- and high-risk projects. **By Thomas Hoffman**

# Weighting the Risks

WHEN PEOPLE PLAN to sock away money for college or retirement, financial advisers typically recommend developing a balanced portfolio of investments. It would be a mistake to have too many low-risk investments, because the portfolio would just trudge along with marginal growth and not meet its investment potential. Investors are also warned not to make too many high-risk investments so that they can be reasonably assured of moderate growth with lower-risk funds in case their higher-risk investments end up tanking.

IT management experts offer similar advice for striking a balance with IT project invest-

## Risk Tips

**Here are some tips on project risk management from IT executives and consultants:**

- **Before launching a project, ask the project manager to identify the top five risks associated with it. Be sure to consider both technical and business or process risks. Then decide what steps to take to respond to those risks.**
- **Don't overengineer risk assessment. Take a quick look at the risks involved in a project and decide whether they exceed the company's risk tolerance.**
- **Decide who will be responsible for risk management.**
- **Don't confuse risk management with problem management.**
- **Make sure risk criteria are regularly reviewed as the project progresses.**
- **Conduct a postproject evaluation to determine whether risks were managed and mitigated and to identify lessons to apply to future projects.**

– THOMAS HOFFMAN

ments. Yet few IT and corporate executives make a conscious effort to ensure that their organizations have an adequate balance of low-, medium- and high-risk IT projects in the pipeline at any given time.

"I think companies do a good job on an individual project level of evaluating execution risk. But I don't think they do a good job of evaluating project portfolio risk," says San Retna, former chief portfolio officer at San Francisco-based AAA of Northern California, Nevada and Utah.

### Lack of Experience

Part of the problem is that most IT and business staffs are inexperienced at reviewing risk, says Jack Duggal, a principal at Projectize Group, an Avon, Conn.-based project management consulting firm. Duggal points to an insurance client he helped a few years ago with a risk assessment on a troubled CRM implementation. "The irony is that an insurance company's job is to manage risk but their IT organization couldn't even spell *risk*," he says. So Duggal and other consultants from his company trained members of the IT organization to identify and analyze risk on both qualitative and quantitative levels.

Despite recent advances in IT governance at some companies, Retna says there's still a lot of confusion about whether project risk management should fall upon individual project managers or on a project management office (PMO) or some other independent entity.

A big problem for many executives is that they frequently confuse risk management with problem management, says Keith Walter, vice president and general manager of global program management at Keane Inc., a Boston-based business and IT services company. They don't understand the difference between identifying and mitigating risks in a project and resolving problems that pop up during a project, he says.

And despite the hype about the benefits of using IT portfolio management to evaluate and rank projects, few Fortune 1,000 companies actually do this, Walter says. And for the handful that do, it's typically a one-time project-prioritization exercise. "I don't know if anybody comes into this and says, 'Let's organize IT-business projects by low, medium and high risk,' " says Dan Demeter, CIO at Korn/Ferry International, a Los Angeles-based executive placement company.

### One at a Time

Like most companies, Korn/Ferry assesses risk on a project-by-project basis as part of project planning.

The company has an IT steering committee for each of its three major business units, plus a corporate IT steering committee. These committees work together to define project requirements, assess risks and approve projects for funding. The groups don't rely so much on formal IT portfolio management techniques as they do on discussing a project's merit "to ensure that everybody has some input," says Demeter.

Barry Cohen, vice president of applications management at Wells Real Estate Funds Inc. in Norcross, Ga., says his company's IT department has "a pretty primitive process" of looking at IT project risk. Cohen says risk is discussed as part of each project and is factored into the timeline and cost estimates. "Our ability to handle risk allows us to work on one or two high-risk projects at a time," he says.

Wells' IT department takes a more ad hoc approach to balancing risk in the company's IT project portfolio, says Cohen. But that doesn't mean it's disregarded. His group is typically working on two high-risk projects and five to 10 medium-risk projects at any given time, plus 100 low-risk projects during the course of the year. High-risk projects include those where failure could adversely affect business processes, end users, or the company's affiliates or investors, says Tammy White, director of IT governance.

> **I try to get the steering committee to approach [risk] the way that you'd manage a financial portfolio.**
>
> **GERALD SHIELDS,** SENIOR VICE PRESIDENT AND CIO, AFLAC INC.

Although Korn/Ferry and Wells seem satisfied with these less-formal approaches, Bob Charette, director of enterprise risk management services at Cutter Consortium in Arlington, Mass., says that companies that do an exceptional job of managing project risks are often also adept at using portfolio management techniques.

### The Portfolio View

Portfolio risk management is a high priority at Aflac Inc. Gerald Shields, senior vice president and CIO, works with members of the company's U.S. steering committee to ensure that the company has adequately balanced risk throughout its project portfolio.

"I try to get the steering committee to approach it the way that you'd manage a financial portfolio. You don't want all of your investments in low-risk, low-return financial investments or in high-risk, high-return" vehicles," Shields says.

At any time, Columbus, Ga.-based Aflac tends to have a higher percentage of high-risk projects than lower-risk projects in the works. That's because IT is trying to meet key business requirements to improve service to policyholders and other customers it supports, says Shields, and Aflac assigns a higher degree of risk to a project when it touches policyholders or other customers.

Traditionally, insurance companies have been risk-averse, and that was also true at Aflac until several years ago, says Shields. That changed as his predecessor, Jim Lester, demonstrated to senior management the kinds of returns that technology projects could deliver. This fostered a "revelation" among senior executives that the only way to support consistent growth was to invest in advanced technologies, Shields says. And those come with inherent risk.

Once the overall risk portfolio has been agreed upon, Aflac has a couple of ways to monitor risk within its IT-business projects. Aflac's PMO assembles monthly reports on each project and assigns red, yellow and green markers to indicate whether a project is on schedule or at risk, says Shields.

The executive steering committee also receives monthly reports from Aflac's software quality assurance group about a project's status "as a sort of independent verification," he adds. So the PMO may report that a project is on schedule, but the software quality assurance group might disagree because of a set of conditions it has uncovered. "Then we sit down and determine the course of action we want to take," says Shields.

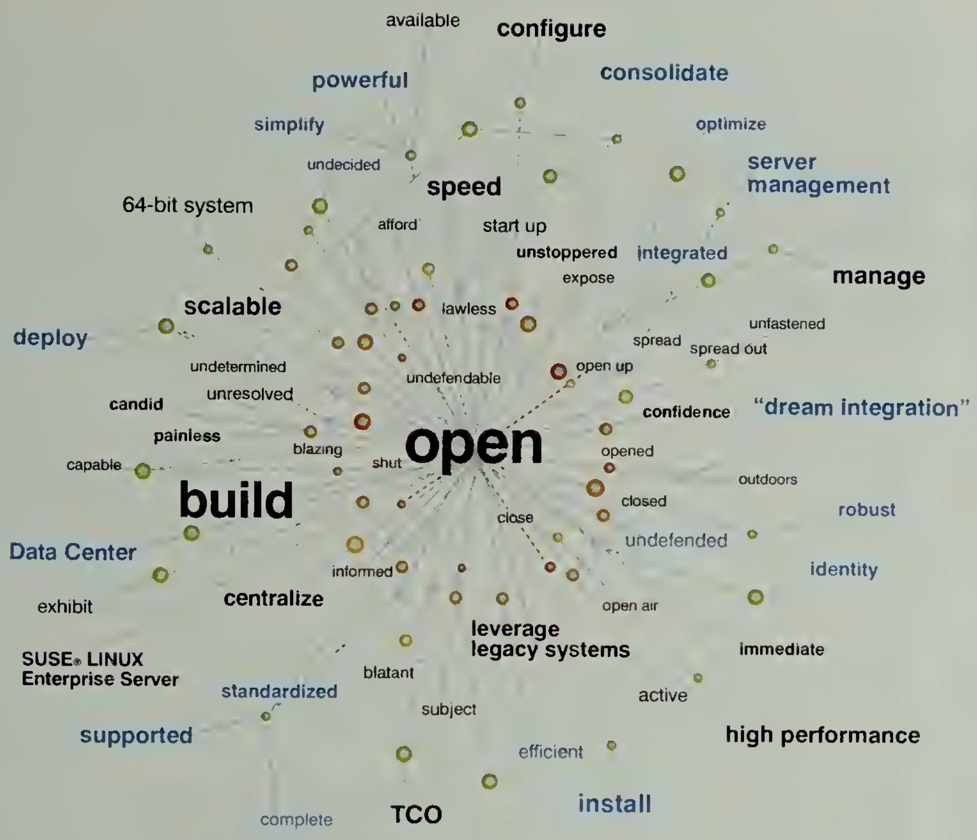
Lowe's Cos. is one of a few companies that do an exceptional job of tying strategic planning to balancing risk in project portfolios, according to Walter.

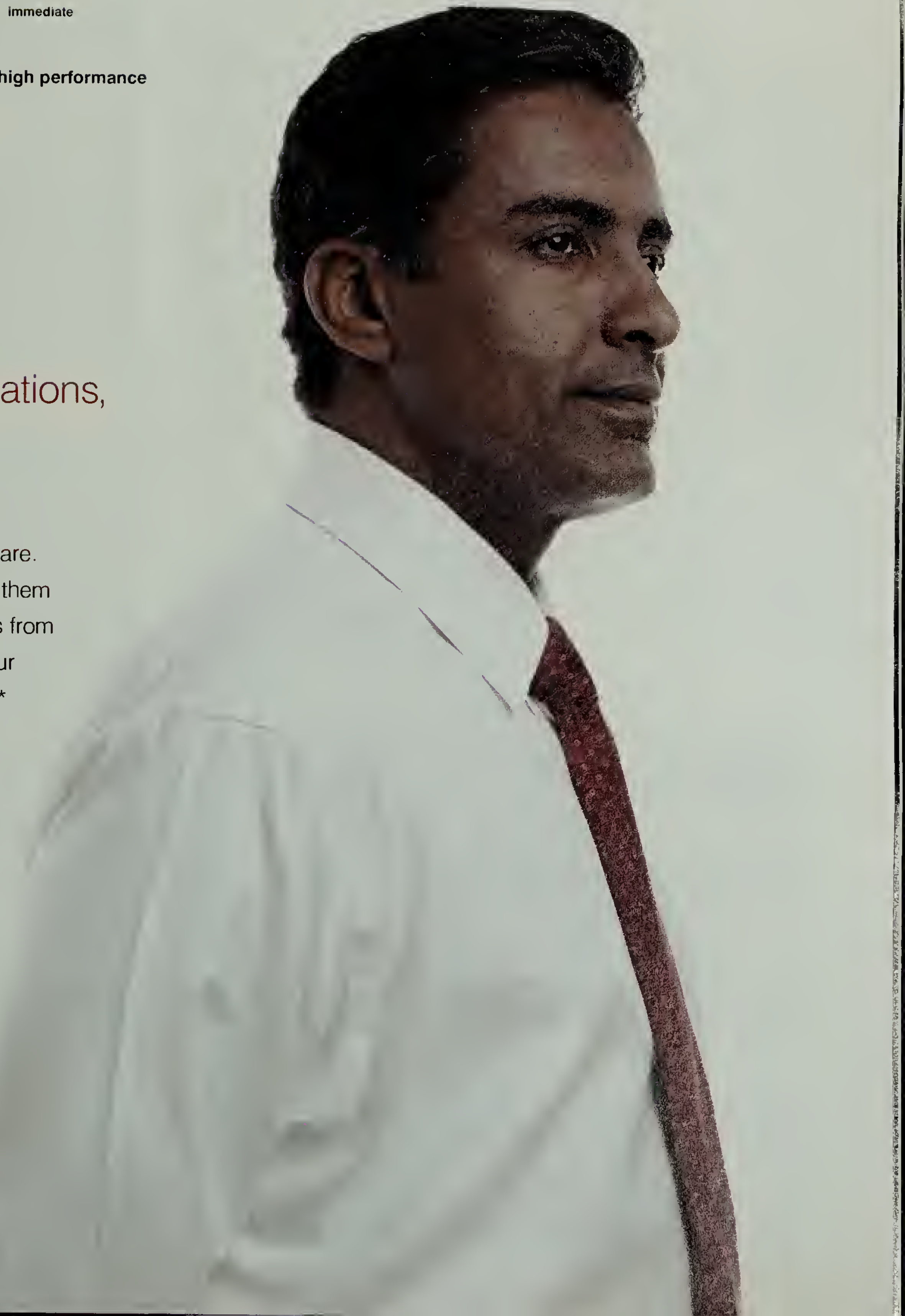
Lowe's enterprise risk management group uses a prioritization matrix for every new project it considers. The group, which comprises the company's top seven executives, examines four components of each project: business returns, strategic alignment, process impact and risk. Risk is a negative score, so the greater the technological or other risk, the lower the overall score will be, says Steve Stone, CIO at the Mooresville, N.C.-based home-improvement retailer. Therefore, a risky project needs to score high points in the other categories to get a green light.

For Lowe's, the riskiest projects are those whose failure could hurt market share and revenue. The flip side is that if those projects succeed, they will likely have a positive effect on those metrics. Some of the higher-risk projects that Lowe's has worked on over the past few years involved expanding support for products that aren't normally available in its stores. Lowe's has beefed up information about those products on its Web site to make it easier for building contractors to learn more about the costs, features and differences between those products, says Stone.

"From a technology standpoint, we try to focus on a blend [of risk-weighted projects] that focuses on the top line but also provides us balance" between driving revenues higher and lowering expenses, says Stone.

Managing risk effectively requires seasoned IT and business people who know how to balance risk throughout a project portfolio. Says Keane's Walter, "If you try to put risk management practices into place in low-maturity organizations, you're not likely to get much value out of it." ▸





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# On Message

## Effective CIOs must learn to communicate five key messages.

*"Most leaders are unaware of how bad they are," says* **John Hamm**. *"If they were doctors, people would die. If they were chefs, no one would eat the food."*

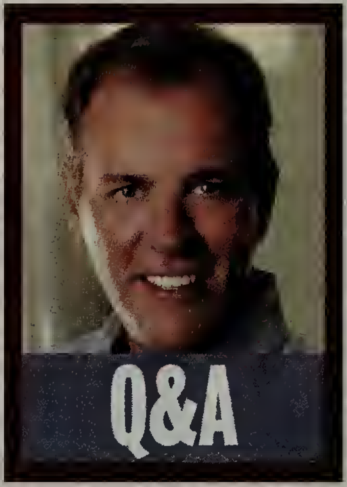
In this month's *Harvard Business Review*, Hamm, a partner at VSP Capital in San Francisco and author of the article "Why Entrepreneurs Don't Scale," boils down this leadership malaise to the inability to communicate five essential messages. He talked with *Computerworld*'s Kathleen Melymuka about what those messages are and what they mean to your IT organization.

**You say that many leaders don't take the time to define specifically what they mean when they use general terms or clichés. What are the results of that?** Leaders, often in an unconscious or innocent way, undersupply the organization — starve the organization — not knowing they do it. One of the phenomena of leadership communication is that leaders assume those in the organization have better information than they usually have. Leaders speak in generalities because they assume that the depth of what they understand is understood in the organization. And people don't want to ask because they're afraid they'll look stupid. The result is that the rank and file are operating on a mix of whatever they got from the leader and whatever they had to make up or assume [in order] to fill in a full information set. This manifests as sloppy and slightly misdirected and imprecise behavior. There's a breakdown between what the leaders know and what the organization gets in terms of direction.

**You highlight five areas in which you say clear communication can wield extraordinary influence on organizations. The first is organizational structure. What message does a leader need to give about an impending reorganization?** Most leaders allow the organization to speculate on an impending reorganization for way too long. The more time people have to know about a reorganization and speculate, the more the leader lets it become about politics instead of organizational resources.

The key is to depoliticize and depersonalize it into a mechanical reorganization of skills. It's about what the organization needs. It's about sets of resources with skills that need to be arranged. Do it quickly, concisely, impersonally and apolitically. People should have a day to hear about it and then get the information. Specifically address the organization's inclination to make it personal. Say, "Do not allow yourselves the luxury of interpreting this politically. I do not intend it that way."

**Results is another loaded area. How should a leader communicate results?** Results, whether financial or operating results, are about the achievement of promised goals. The inclination for organizations is to interpret them as who wins and who loses. CIOs who issue a lot of blame cause people to cover up things they believe they will be personally blamed for. The medicine for that is to separate individual performance from the analysis of results around operating goals. Look at operating goals more diagnostically — what went wrong, as opposed to who did something.



Deal separately with individual performance. To use a public setting as a place where individuals can get their asses handed to them is not useful. It changes the discussion from one where there's a chance people can learn something to one where they spend all their energy covering up.

**You write that another concept in need of clarity is the role of the leader.** If the CIO wants to collaborate at a peer level, he needs to appreciate that positional power is in the way. He has to find a way to unplug from being the boss. He has to communicate very specifically, "I'm an engineer as well as a VP of engineering." That lets his ideas exist at the same voltage as everyone else's.

**What message do smart leaders give about time management?** What the organization has control over is what they choose to do, not how many hours there are in a day. If we scope a project wrong, we're not going to be able to make a day with 85 hours in it. If people are working as hard as they can and they're still not going to get there, let them feel some freedom and creativity in how they will get this done. Give them the ability to choose to do less or do it differently. In most high-achieving organizations, people can't work more, so talk about changing the scope rather than working longer, harder, more fatigued and more stupid.

**The final message is about corporate culture. What should that message be, and why do so many leaders get it wrong?** Culture is not a project; it's a way people describe how well you've managed the company. Where leaders have power is in doing the right things from an organizational process management standpoint: having open and supporting staff meetings, having clear project plans where concerns are worked out, taking a stand for respectful behavior. The whole notion of culture for leaders at any level is this: Run the place in a way that has people feel good about working there, and people will say they love the culture.

But if you attempt to work on culture directly, like [it's] a "thing," you will screw it up. It boils down to three things: Hire well and realize the largest factor is quality of workforce. Have the group behave consistent with the way you say you're going to have it behave. People want to know what the rules are. There's freedom and safety when people understand that the environment has integrity.

Finally, create the phenomenon of winning. People in losing games don't have fun. There are exceptions, but if you're losing, it will generally be a crappy place to work. The converse isn't always true. It's not guaranteed that if you're winning, it will be a great culture, but if you're losing, it will be a lousy one. You have to create the experience of winning or the confidence that we're going to. In IT, you can create the phenomena of a successful department meeting its goals, well regarded in the company, with a reputation for performance. If over time a CIO can't figure out how to win, he won't keep the best players. ▸

### A New Approach

Vague messages can leave employees without direction. Strong, clear messages leverage energy and commitment.

| TOPIC | CONVENTIONAL MESSAGE | BETTER MESSAGE |
|---|---|---|
| Organizational structure | Organizational chart is proxy for politics. | Optimize human resources. |
| Financial results | Penalize misses; blame someone. | Analyze cause of shortfalls. |
| Leader's job | Boss has all the answers. | Everyone has answers. Ask questions. |
| Time management | Scramble against constraints. | Choose wisely. |
| Corporate culture | Give responsibility to HR. | Create an environment in which everyone can help the team win. |

SOURCE: ADAPTED FROM *HARVARD BUSINESS REVIEW*

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# How to Write a Statement of Work

### It's a tricky task that's essential to project success, and it's easier said than done.

BY MARY K. PRATT

**STATEMENT OF WORK.** As straightforward as it sounds, getting one right is no easy task. But nothing is more fundamental to the success of a project. If the statement of work is too vague, too broad or too generic, it can leave room for various interpretations, which can lead to trouble down the road. That's true for an internal project, and it's doubly true when there are vendors involved.

"The failure to properly execute a statement of work is often the reason parties end up in a dispute," says David M. Greenberg, an attorney in the technology, media and telecommunications practice group at Greenberg Traurig LLP's New York office.

To get your project right the first time, follow these guidelines for writing an effective statement of work, or SOW, as it's affectionately called.

## Understand what a SOW is.

A SOW defines the scope of work required and the time in which it's to be performed. It's "the cornerstone to an agreement," says Nick Scafidi, IT procurement manager at energy supplier National Grid USA in Westboro, Mass. "It sets expectations, deliverables, what's acceptable, the price, the pricing schedule. Without that, it's like saying to a contractor, 'Build me a house,' [without] telling him when, what kind or how big."

## Know what to include.

Bruce Russell, who signed off on numerous SOWs when he was chief operating officer at a software development company, says a good one includes these things:

- Major deliverables and when they're expected.
- The tasks that support the deliverables, as well as which side — the hiring company or the service provider — will perform those tasks.
- The project's governance process, along with how often governing committees will meet.
- What resources are required for the project, what facilities will be used and whose equipment will be needed, as well as testing requirements.
- Who will pay which costs and when.

"The statement of work pulls together all the elements at the beginning," says Russell, now an executive professor at Northeastern University's College of Business in Boston. "And the more precise you can make it, the more quantitative, the better."

## Define success.

A statement of work should clarify for all parties what constitutes success or failure, says Melise R. Blakeslee, an attorney in the intellectual property, media and technology transactions group at McDermott Will & Emery LLP in Washington.

"You have to adequately describe what the work is and the criteria for how you both [will] agree" that something is successfully completed, says Ruth Anne Guerrero, standards manager at Project Management Institute Inc. in Newtown Square, Pa., and a former IT project manager.

For example, she says, if you expect your vendor to develop user requirements, your SOW should state that the vendor must interview specific user groups and have them approve the requirements before the job is considered done. That defines success better than simply saying, "Vendor will produce user requirements."

The definition of success depends on the project, Guerrero says. IT project leaders need to specify whether successful implementation is defined by speed, response time, ease of use or all three and then quantify them in the SOW.

## Don't forget a timetable.

Successful implementations can't be defined by the system's speed or responsiveness alone, though. After all, what good is a great application if it takes a decade to build? That's why a SOW needs to include time elements. Guerrero recommends using language that allows some flexibility rather than a fixed date on the calendar. A SOW should specify, for instance, that the end-user requirements are due two months after the contract is signed — wording that still gets the project moving forward while accommodating potential problems such as a delay in signing the contract.

A SOW should also designate specific times for formal reviews, so all involved can confirm that they're on track, says Matt Liberatore, a professor in the department of decision and information technologies and the John F. Connelly Chair in management at the College of Commerce and Finance at Villanova University in Villanova, Pa.

### Collaboration Is Key

THE TASK OF WRITING A STATEMENT OF WORK could fall to various players on an IT project. The best approach is for IT leaders to draft it and then work with the vendor to tweak it, says Nick Scafidi, IT procurement manager at National Grid USA. Scafidi works with key internal stakeholders, including lawyers, to draft the SOW. The process can take several weeks but helps guarantee that user requirements, technical deliverables and project goals are understood and clearly articulated.

Scafidi then sends the draft to the service provider for review and revisions, often working with the vendor team in person to fine-tune the draft. That way, he says, "you really feel like it's a team effort."

– MARY K. PRATT

## Tie payment to milestones.

Another key component to keeping work on track is setting specific milestones in the SOW and tying payment to successful completion, Blakeslee says.

When Scafidi writes a SOW, he specifies that payments to vendors are made upon acceptance of key deliverables. He also notes that he will retain a portion of the pay until the vendor proves that all the deliverables work together.

## Use language everyone can understand.

The IT department and its vendors aren't the only ones using the SOW, Blakeslee says. So don't write it as if only IT people will see it. "It should be understandable to end users, service providers, management and to a judge," she says.

## Be specific.

Although numerous parties have to understand the statement of work, be precise in describing the project's scope and requirements, Blakeslee says. She has seen documents that set vague goals, such as "will work to the best of their abilities." She compares that to a homeowner hiring a painter with instructions to "use the best effort possible."

"If the painter does that but paints your house purple instead of white, then you wouldn't have a claim against him," she says.

Scafidi has taken such advice to heart. Instead of saying a task will take "a reasonable amount of time," Scafidi writes, "The specified task will take no more than four hours."

"Attorneys feel good when we have a clear, unambiguous definition on things like that," he says.

## Remember postproduction needs.

Guerrero recommends including postproduction requirements in the SOW. Spell out the testing and support you'll need from the vendor, she says. And if you plan to have internal folks support the system after installation, the SOW should address whether the vendor will train your staff. Such language, she says, guarantees that the vendor doesn't "just deliver the system and walk away." ▸

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*Pratt is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

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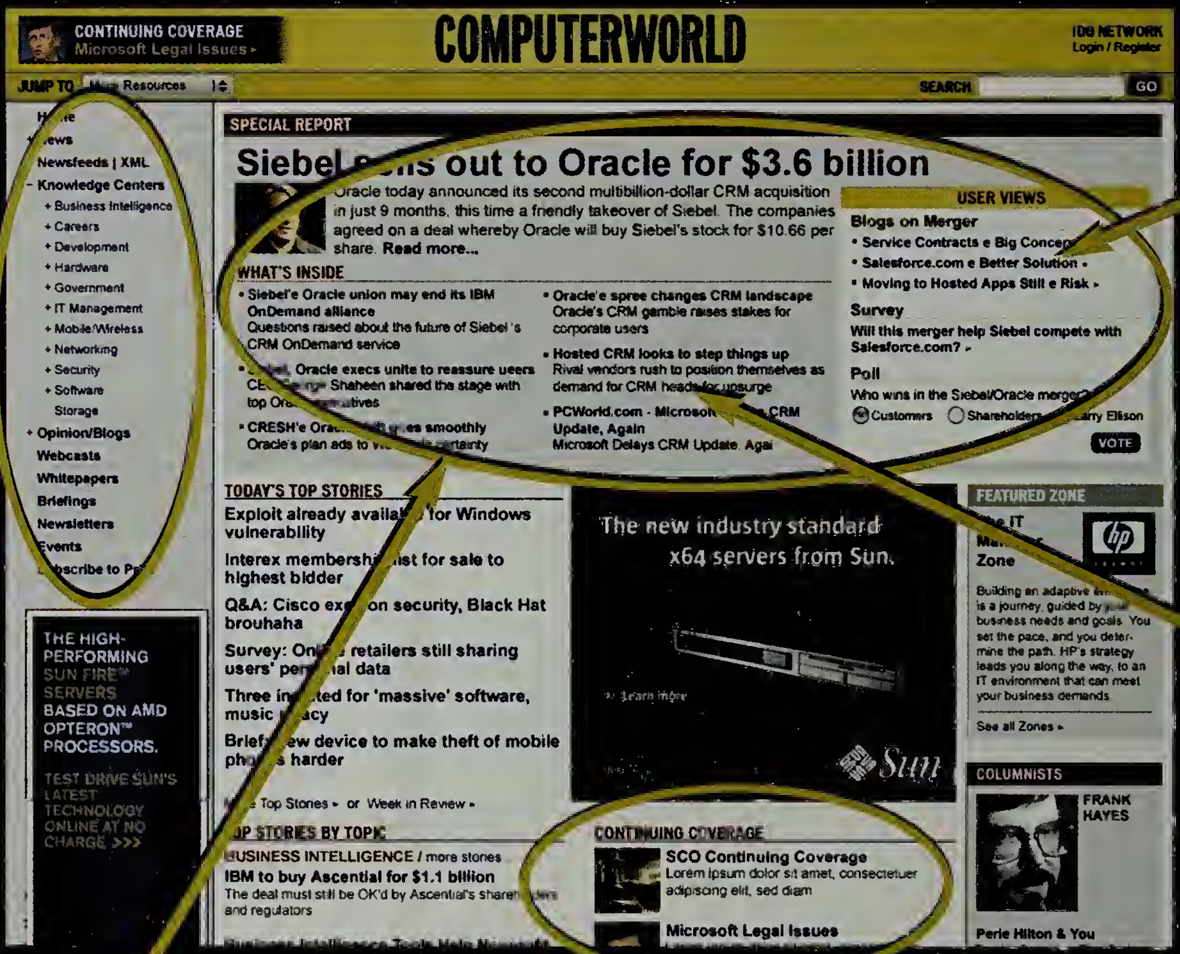

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Oracle today announced its second multibillion-dollar CRM acquisition in just 9 months, this time a friendly takeover of Siebel. The companies agreed on a deal whereby Oracle will buy Siebel's stock for $10.66 per share. **Read more...**

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**Brief[illegible]ew device to make theft of mobile ph[illegible]s harder**

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**Beth Schultz, Editor, Network World Signature Series** Her decisions identify IT's all-stars, best products, and power players Her insights ignite buzz, create trends, and make markets And now Beth Schultz, the editor behind Network World's influential Signature Series, is coming to IT Roadmap: Chicago to moderate the day's agenda-setting End User Roundtable with Network World's Enterprise All-Stars Beth and her team will take you beyond what's new and what's next to focus on what really works and why in the enterprise. An invigorating, problem-solving way to start your day: Discovering how to orchestrate IT's best practices to achieve top performance among IT's most important technologies

## Meet Your IT Roadmap Analysts

**Andreas M. Antonopoulos, Senior Vice President & Founding Partner, Nemertes Research.** A leading expert in new processes, complex systems, emerging technologies, and winning strategies. Consultant to Fortune 100 companies.

**John Burke, Senior Vice President and Founding Partner, Nemertes Research.** An accomplished systems architect, database administrator, network specialist, and programmer.

**Johna Till Johnson, Founder & President, Nemertes Research.** Visionary researcher, influential consultant and widely-published analyst. A member of the IEEE, the ACM, and member of the Internet Engineering Task Force.

**Craig Mathias, Principal, Farpoint Group.** Internationally-recognized technology analyst specializing in wireless networking and mobile computing. Serves on the advisory boards of eight industry conferences.

**Jim Metzler, President, Ashton Metzler & Associates.** Highly-respected authority on network technology and its business applications. An industry-leading advisor to vendors refining product and service strategies, and to enterprises evolving network infrastructures.

## Choose a Morning Track

### Application & Content Security

Ready to secure your core?
Respond to attacks?
Close vulnerabilities?
Begin here!

**Andreas Antonopoulos,**
Nemertes Research

**Summary:** Security issues and architectures are moving "up the stack," focusing on content, applications, and data Enterprises want "defense-in-depth"—building protection into every element of the information architecture.

**Theme:** Enabling Effective Security in a Risky World: Issues, Strategies, Best Practices

**Topics:**
- Critical Issues for 2006
- The high cost of spyware
- VoIP and wireless security
- Patch management
- Logging and auditing management
- Identity management and federation
- Policy management and automatic policy updates
- VPNs, identity and access management
- Security and the remote worker

**Technologies:**
- Anti-spam
- Anti-phishing
- Anti-spyware
- Anti-virus
- Encryption
- Application firewalls
- Policy enforcement
- Regulatory compliance
- Identity management
- Federated identity
- Logging & auditing

### Enterprise Mobility

Wireless is everywhere. More powerful, more pervasive, and critical to success. What's next? Here's where you keep up by getting ahead.

**Craig J. Mathias,**
Farpoint Group

**Summary:** Anywhere, anytime access — takes more than wireless routers at the heart of your network. It requires new expertise in emerging voice over WiFi next-generation Bluetooth and the coming of WiMax. At this session you'll gain the strategic understanding and practical know-how to translate hot technology into meaningful client service, greater user productivity, and cold, hard, first-cycle ROIs

**Theme:** Mobilizing Everyone: Emerging Mobile Broadband Systems and Technologies

**Topics:**
- The Big Picture of Wireless. Picking the right tool for the job
- WLAN architectures and the role of MIMO
- Fixed/Mobile and Mobile/Mobile Convergence (FMC and MMC)
- WiMAX - where does it fit?
- Wireless wide-area broadband

**Technologies:**
- 3G/Broadband
- WiMAX
- Voice over IP over WiFi
- Bluetooth and Beyond: Ultra-Wideband Wireless Personal-Area Networks
- RFID and RTLS
- Wireless Web services
- 4G Wireless networks

### Network Management

It's the new core competency. With today's innovative technology it's the engine that drives the agile enterprise. Are you on board?

**Jim Metzler,**
Ashton, Metzler & Associates

**Summary:** Managing every aspect of a network is critical to creating an infrastructure that responds to the changing needs of a business. But which technologies and innovations add value in areas that range from applications to performance to security to web services to compliance and more?

**Theme:** The Link between an Agile Enterprise and Network Management

**Topics:**
- "The agile enterprise:" Reality vs. hype
- Innovation and network management—is it possible?
- Cross-enterprise drill downs

**Technologies:**
- Application management
- Performance management
- Configuration and patch management
- ITIL—IT Infrastructure Libraries
- Security management
- Web services management
- Business-services management
- Compliance management
- Service-level management
- Analytics

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GENERAL SESSION

7:30 **Registration** and Complimentary Continental Breakfast

8:30 **Keynote** "Navigating the Road Ahead: The New IT Imperatives"
John Gallant, President & Editorial Director, Network World, Inc.

9:10 **End User Roundtable with Network World's Enterprise All-Stars**
Moderated by Beth Schultz, Editor, Network World, Signature Series

9:45 Break for Complimentary Refreshments

MORNING TRACKS (Choose One)

| | | | |
|---|---|---|---|
| 10:00 | **Application & Content Security**<br>with Andreas Antonopoulos of Nemertes Research | **Enterprise Mobility**<br>with Craig J. Mathias of Farpoint Group | **Network Management**<br>with Jim Metzler of Ashton, Metzler & Associates |

12:30 **Complimentary Lunch** s Served and **IT Expo** is Open

AFTERNOON TRACKS (Choose One)

| | | | |
|---|---|---|---|
| 2:30 | **Storage & Data Compliance**<br>with John Burke of Nemertes Research | **VoIP, Convergence & Collaboration**<br>with Johna Till Johnson of Nemertes Research | **Network & Application Acceleration**<br>with Jim Metzler of Ashton, Metzler & Associates |

5:00 **"Meet the Experts" Reception and IT Expo**
Our IT Analysts will be hosting tables where you can sit down, and explore one-on-one the issues that shape your enterprise and the answers you need to meet the challenges ahead.

6:00 **Passport Drawing:** Featuring your chance to win one of 10 great giveaways! Must be present to win.

## Choose an Afternoon Track

### Storage & Data Compliance

Regulation: The rule of the games—and how best to play it—are changing. Are you prepared? Find out here.

**John Burke,**
Nemertes Research

**Summary:** Data the heart of all thriving enterprises How it's managed and stored can make or break a company. Especially when it comes to corporate and regulatory compliance New approaches such as wide-area file services, continuous data protection and data replication are emerging But there are risks as well as rewards. Find out what's right for you

**Theme:** Information Stewardship Holistic Data Management in the Enterprise

**Topics:**
- Storage and ILM
- DQM
- Compliance
- BCP/DR
- Information Protection (IP)
- Organizational best practices
- Linchpin technologies

**Technologies:**
- Wide Area File Services
- Continuous data protection
- Data replication
- Backup and recovery
- Information life-cycle management

### VoIP, Convergence & Collaboration

It went from "potential" to "best practice" at light speed Where will "convergence 2.0" take the enterprise next? See here.

**Johna Till Johnson,**
Nemertes Research

**Summary:** Building the VoIP infrastructure was the easy part Now the key to success is how you manage it, secure it and leverage it New apps such as real-time collaboration offer real benefits in each of these areas Learn how to advance your architecture to include the most effective technology

**Theme:** Convergence and Collaboration: The Next-Generation Network Paradigm

**Topics:**
- Key trends in VOIP deployment
- Video-over-IP
- VoIP and wireless
- RTCDs and who uses them
- Build vs buy
- Case studies

**Technologies:**
- VoIP security
- VoIP management
- VoIP assessment tools
- Voice over WiFi
- Business collaboration tools
- Voice-enabled applications

### Network & Application Acceleration

Lean, mean, clean: Watchwords that turn data centers from cost centers into profit centers. Discover how here.

**Jim Metzler,**
Ashton, Metzler & Associates

**Summary:** Appliances that perform some form of application acceleration have quickly penetrated the enterprise to help reduce the number of servers needed in the data center. All while boosting the performance of key applications accessed locally or across a WAN Different approaches to network and application performance produce dramatically different results Learn how to implement your own best-case scenario

**Theme:** Integrating Application Acceleration into the IT Function

**Topics:**
- Compression/caching
- TCP acceleration
- QoS/Migration to MPLS
- Wide-Area File Systems
- The demands of the data center
- The demands of the branch office
- 7 key action items SSL & web acceleration
- Server offload

**Technologies:**
- Compression/caching
- TCP acceleration
- QoS/Migration to MPLS
- VoIP
- Wide-Area File Systems

## Venue

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KAREN SHOCKLEY Director, Applications Support, AMTRAK

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RICH SZABO VP-IT, Northway Bank, NH

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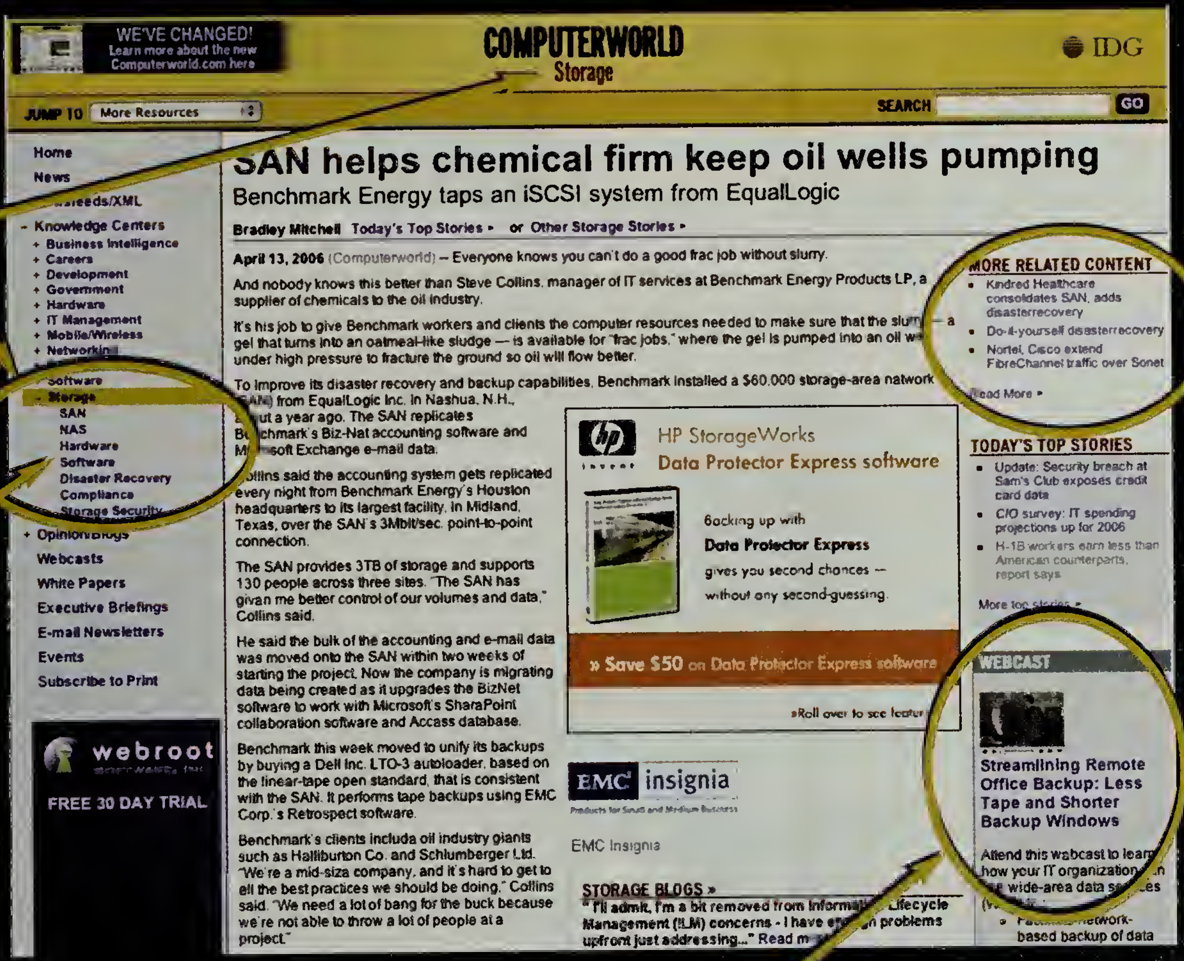

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**April 13, 2006** (Computerworld) – Everyone knows you can't do a good frac job without slurry.

And nobody knows this better than Steve Collins, manager of IT services at Benchmark Energy Products LP, a supplier of chemicals to the oil industry.

It's his job to give Benchmark workers and clients the computer resources needed to make sure that the slurry — a gel that turns into an oatmeal-like sludge — is available for "frac jobs," where the gel is pumped into an oil w under high pressure to fracture the ground so oil will flow better.

To improve its disaster recovery and backup capabilities, Benchmark installed a $60,000 storage-area network (SAN) from EqualLogic Inc. in Nashua, N.H., about a year ago. The SAN replicates Benchmark's Biz-Nat accounting software and Microsoft Exchange e-mail data.

Collins said the accounting system gets replicated every night from Benchmark Energy's Houston headquarters to its largest facility, in Midland, Texas, over the SAN's 3Mbit/sec. point-to-point connection.

The SAN provides 3TB of storage and supports 130 people across three sites. "The SAN has givan me better control of our volumes and data," Collins said.

He said the bulk of the accounting and e-mail data was moved onto the SAN within two weeks of starting the project. Now the company is migrating data being created as it upgrades the BizNet software to work with Microsoft's SharaPoint collaboration software and Accass database.

Benchmark this week moved to unify its backups by buying a Dell Inc. LTO-3 autoloader, based on the linear-tape open standard, that is consistent with the SAN. It performs tape backups using EMC Corp.'s Retrospect software.

Benchmark's clients includa oil industry giants such as Halliburton Co. and Schlumberger Ltd. "We're a mid-siza company, and it's hard to get to all the best practices we should be doing," Collins said. "We need a lot of bang for the buck because we're not able to throw a lot of people at a project."

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# Career Watch

## A Campaign That Begins After You Win

**MOVING** from co-worker to boss is one of the more delicate transitions in corporate life, according to Jack and Suzy Welch. The best-selling authors of *Winning* (Collins, 2005) now answer workplace queries in a column of that name in *The New York Times*. Their advice about what to do once you've been anointed as the manager of the team you once belonged to: Start campaigning. "You need to go out and get elected by your former peers," they write. According to the onetime celebrity CEO of General Electric Co. and the former *Harvard Business Review* editor, after such a promotion is announced, your former peers "are in a holding pattern . . . checking you out. And that's where you should be, too. In a holding pattern, checking them out. In fact, checking everything out."

## Where the Money Is Greener

Top five highest-paying metropolitan areas for IT professionals (by average salary):

| | |
|---|---|
| Silicon Valley | $85,000 |
| Boston | $78,000 |
| New York | $78,000 |
| Baltimore/Washington | $76,000 |
| Atlanta | $75,000 |

SOURCE: DICE INC., APRIL 2006

## Cybersleuths Getting Top Dollar

**GRADUATES OF** computer forensics programs have always been in demand with law enforcement, but demand is booming now that private companies have begun recruiting cyberinvestigators. According to Marcus K. Rogers, an associate professor who heads the computer forensics program at Purdue University's College of Technology, demand has gotten so great that graduates in the field are some of the most sought-after in the country this year.

Meanwhile, a law under consideration in Georgia that would require private investigators to be licensed is so broadly written that it could be interpreted to include most computer forensics and incident-response experts, says columnist Mark Rasch in *SecurityFocus* magazine. It is possible under the proposed law that computer security experts would need a PI license to testify in court, or face felony charges. The law has been approved by the state legislature and awaits the signature of Gov. Sonny Perdue.

**$100k**

TOP OF RANGE FOR STARTING SALARIES FOR COMPUTER FORENSICS GRADUATES.

SOURCE: MARCUS K. ROGERS, ASSOCIATE PROFESSOR, PURDUE UNIVERSITY

PAGE COMPILED BY JAMIE ECKLE.

## Ask a Premier 100 IT Leader

### Roland A. Garcia

**TITLE:** Senior vice president and CIO

**COMPANY:** Baptist Health of Northeast Florida, Jacksonville, Fla.

Garcia is this month's guest Premier 100 IT Leader, answering readers' questions about education choices. If you have a question you'd like to pose to one of our Premier 100 IT Leaders, send it to askaleader@computerworld.com, and watch for this column each month.

**I am a neonatal intensive-care unit nurse with 15 years of experience. I am one-third of the way through an online IT degree in Web application development. How can I incorporate the two careers into one that would be desirable for employers? I am an excellent employee and student but have no previous IT experience.** The health care industry is undergoing significant changes, with large investments being made for the deployment of electronic medical records (EMR). When organizations are faced with such projects, which are intended to change the fundamental processes of an organization, subject-matter experts are required to facilitate the necessary workflow changes. Your knowledge of hands-on care in this setting can be of significant value, either to your organization or to others.

Start with your current employer and look around for opportunities in the areas of health care informatics, clinical informatics or even the information systems organization. If the organization is engaged in an EMR project, it might be actively seeking someone with your credentials. If your present employer isn't the right fit for you, it won't be hard to find others in the health care industry that are pursuing these types of projects. At Baptist Health, for example, we opened the first all-digital community hospital and are now in the process of extending this same model to all the hospitals in our system.

**I am a software developer with five years of experience. I would like to work on much more strategic IT tasks, so I am considering a master of science in information systems management, a master of science in computer science or an MBA. Which would you recommend, and why?** My advice would be to pursue an MBA. You already have a technical background and likely can maintain your technical knowledge by keeping involved in projects at work or by reading current literature in the field. An MBA would provide you with a different perspective about business decision-making, give you some tools that you can carry across industries and help you view strategies and decision-making from a financial perspective.

**I'm a CIO at a small to medium-size financial firm. I would like to obtain a doctorate but am concerned that it may be perceived as too much education for the position and end up being a detriment to my career. Your thoughts?** One of the bad raps that Ph.D.s get is that they take "too academic" an approach to problem-solving. Though some individuals might be overly academic, this generalization is not fair. Many people who have pursued doctoral degrees for their personal satisfaction are able to function very well within the dynamic business world. It boils down to who the person is, how he approaches his job, and his leadership style within the business setting. I wouldn't be too concerned about perceptions and recommend pursuing what interests you. There are many organizations that value and recognize the effort and initiative that acquiring an advanced degree represents. ▸

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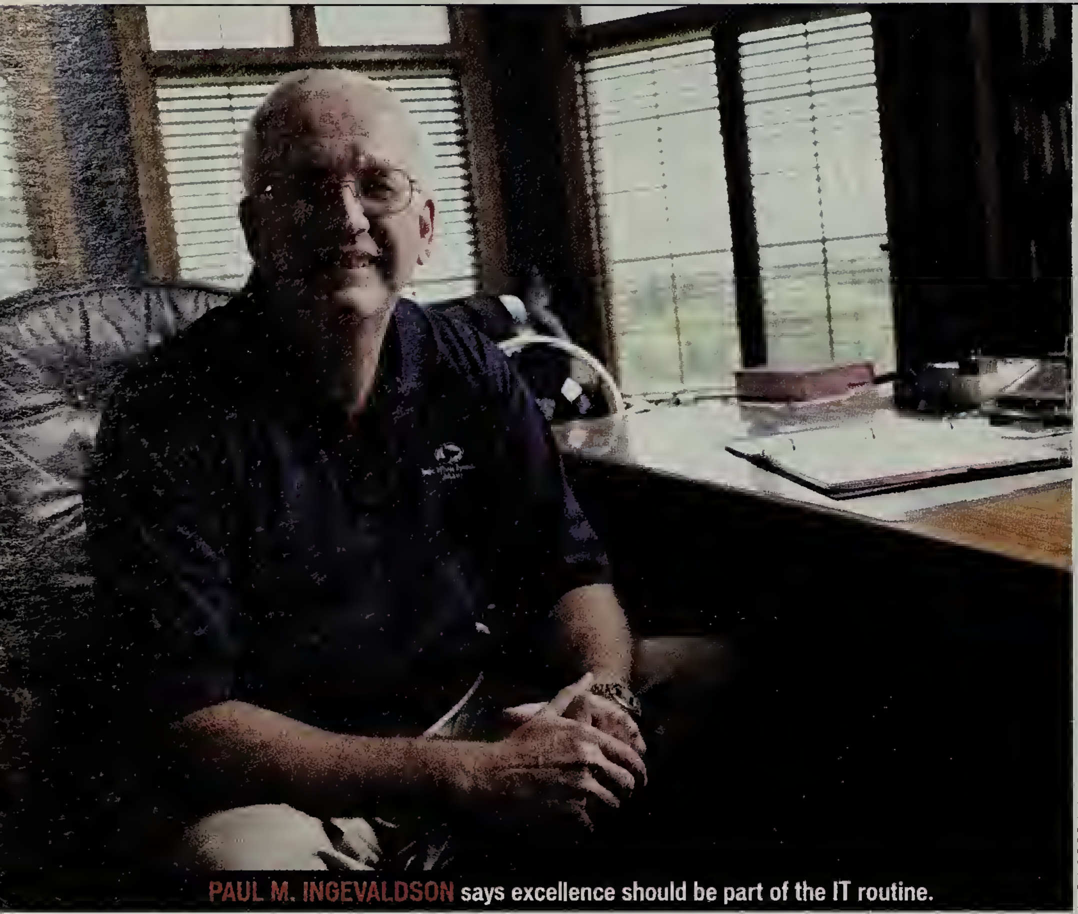

**PAUL M. INGEVALDSON** says excellence should be part of the IT routine.

ANDY GOODWIN

# Little Things Count

## For IT leaders, day-to-day details can make all the difference.

### By Paul M. Ingevaldson

**IT MENTOR**

FOR THE past three years, three unlikely teams have won the World Series: the Florida Marlins in 2003, the Boston Red Sox in 2004 and the Chicago White Sox in 2005. In each of those years, the winning championship roster did not have the league's most valuable player. None of the winners led their respective leagues in batting average, earned run average or home runs. Yet, somehow, they all were able to win the biggest prize in their profession. What was their secret?

I would suggest that each of these teams did the "little things" better than the other teams. These are the practices that don't make the headlines but perhaps do more to gain a victory than hitting home runs and pitching shutouts because they happen on almost every play in every game.

In IT, we often talk about strategy, alignment, setting deadlines, making budgets and defining user requirements. Those are the big things that everyone sees and evaluates. But I maintain that many little things make IT departments successful in the long term. I'm sure that each of you does a lot of these things every day. Here are some of the ones I did as a CIO to make our department as good as it could be:

## MEETINGS

Despite their bad image, meetings are one of the most essential activities we engage in during a business day. Most of the important results we achieve occur during some type of meeting, whether it's a brainstorming session where a new revenue idea surfaces or an update meeting that reveals a redundant task whose elimination can save millions. The problem with meetings is that they often lack focus. Here are some ways you can remedy that:

- Don't call a meeting without publishing an agenda. This simple practice helps attendees to better prepare and be more engaged in the discussion. Preparation should enable the attendees to reach a satisfactory consensus more quickly. I hate long meetings.
- Make it clear that consensus, not agreement, is the goal. Consensus is about reaching a solution you can live with as opposed to one you agree with fully. If you always seek agreement, nothing will ever get done.
- The most important part of a meeting occurs after it is over. The person who writes the minutes has the power. Write minutes for your meetings and distribute them to all participants.
- In the minutes, document every consensus reached during the session. Outline what requires follow-up, who will do it and when.
- At the end of the minutes, add the stock phrase "Please let me know of any additions, deletions or alterations that should be made."
- Review the minutes, especially open issues, when the group reconvenes.

## TRADE SHOWS

I'm a strong believer in trade shows. They help staffs stay current with trends in a rapidly changing industry. Many CIOs treat them as a boondoggle, but the problem is the lack of routine business practices surrounding attendance. Here are some ways to fix that:

- Don't use trade shows as a reward program. Hassling with airlines and staying in hotel rooms is no reward. Send the people who can get the most out of the show and provide the most benefit to your department.
- Make it clear that with attendance come certain responsibilities.
- Always require that a trip report be e-mailed throughout the department so that everyone benefits from what attendees learn. This puts a little pressure on attendees to take careful notes.
- Ask about the conference after it was over. If people know that they will be asked, they will try to summarize their thoughts into something valuable for the boss. This is also a way to prove to associates that their opinions are important to you and the department.

## HUMAN RELATIONS

In IT, our people are our most important asset. Yet I think most IT shops spend more time on physical asset management than on intellectual asset management. Here are some ways to show your people that you value them:

- Consider an annual awards event where you recognize the best accomplishments of the year. Ours were in the style of the Academy Awards, with nominations from associates. Although subjective, they were cherished by the recipients. There is no better feeling than to be recognized by your peers.
- Send as many people as possible a birthday e-mail. Thank them for their contributions to the department and try to make some personal comment about their current projects or their career. This may sound like a trivial action — until you're on the receiving end of a compliment from your boss's boss on your special day. It's truly amazing how many great responses I got from doing such an easy task.
- Encourage your managers to institute a two-level review process for all employees. Most human resources programs require only a review from the boss. However, I thought it was valuable for employees to have a meeting with their boss's boss to review long-term career aspirations. That also sparked an amazing reaction. People felt that management was really interested in their careers and not just the next project.

That's my list. I'd really like to hear from you about the little things you do. Just think how much better our departments would be if everyone instituted an expanded "little things" program. We'd each have a great ball club! ▸

## When Little Things Backfire

**Sometimes "little things" can get you into a little trouble.**

**One of the little things I try to do, especially when traveling, is to call people such as airline personnel, restaurant servers and hotel employees by their first names. It's always amazing to see their attitude and service improve from such a simple thing.**

**One time, I was at the ticket counter in the Toronto Airport. I looked at the agent's name tag and addressed him as Lester. My associate, who was Canadian, quickly whispered that I was in the Lester B. Pearson Airport, named for a former prime minister of Canada.**

**– PAUL M. INGEVALDSON**

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*Ingevaldson retired as CIO at Ace Hardware Corp. in 2004 after 40 years in IT. Contact him at ingepi@aol.com.*

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# Demystifying Software Estimation

## Author **STEVE McCONNELL** explains how to keep your project on schedule.

*"Go with your gut, then multiply by three." So goes the conventional wisdom about estimating the cost of software development, a critical business task that very few companies do well, according to Steve McConnell, author of* Software Estimation: Demystifying the Black Art *(Microsoft Press, 2006).*

*But it doesn't have to be that way. Generating accurate software estimates is a straightforward exercise, once you understand what goes into creating them, says McConnell, who is lead software engineer at Construx Software Builders Inc., a software development, training and consulting company in Bellevue, Wash. He spoke with* Computerworld's *Julia King about some common software-estimation mistakes and how to generate estimates based in reality.*

**In your book you talk about estimates and targets. What's the difference between the two?** An estimate is an analytical assessment of how much a project will cost or how long it will take to be delivered. A target is an expression of a desirable outcome: "Ready in time for a trade show or the holiday sales season." A target doesn't have to be grounded in what's possible. It can be wishful thinking.

**But a target – rather than, say, a cost cap – is often what upper management sets as the project goal. Then, later, there's a lot of grumbling about high costs. How can IT head this off from the outset?** The way to find out what management really values is to ask them. Ask them whether they want to take on more risk to meet a target or to reduce risk but possibly not meet a target. When upper management gets asked that kind of question by technical staff, they really eat it up. They're so happy to have the technical side expressing interest in the business as a business. Almost always, management will say they value predictability. If management has to choose between high costs with high predictability and lower costs with higher unpredictability, they want the predictability.

**What's the best way to build that predictability into cost estimates?** Using organizational data to build estimates can be pretty accurate, because it takes into account factors such as other [workplace] distractions [that reduce the amount of time a developer devotes to the project at hand] and how good the organization is at developing stable project requirements. But the better way is to use project-specific data that includes data about individuals who worked together on projects before. When you deal with project data, you know the productivity characteristics of the people on a project, so it tends to be more accurate.

**You recommend collecting historical data about productivity as a project is under way. Why? And is that realistic, since so many projects are already under very high pressure?** The goal of collecting historical data is to build a model that you can use for [future] estimation. How soon you can begin collecting this data is a function of how a project is being managed. If you're using an iterative approach and delivering software in chunks, you can begin to get data as early as 5% to 7% of the way into a project. If you're taking more of a sequential, waterfall approach to a project, it's more difficult to get to that data early on.

**What's the most common mistake you see in estimation?** Many organizations shoot themselves in the foot by committing to a project estimate too early — before enough is known about the work being done to come up with the best estimate. You don't have to wait all that long to come up with an accurate estimate, but you can't get it on Day One either. By the time you're 30% of the way into a project, you'll have an accurate estimate. It needs to be recognized that you can't get an accurate estimate on Day One. ▸

## 10 Tips FOR ACCURATE ESTIMATES

1 **Don't intentionally underestimate.** The penalty for underestimation is worse than for overestimation.

2 **Don't provide "percentage confident" estimates** unless you have a quantitatively derived basis for doing so.

3 **Don't reduce developer estimates;** they're probably too optimistic already.

4 **Invest effort in assessing the size of the software (lines of code) that will be built.** Size is the single most significant contributor to project effort and schedule.

5 **Don't assume that effort scales up linearly as project size does.** Effort scales up exponentially.

6 **Use historical data as the basis for your productivity assumptions.**

7 **Use data from your current project** to create highly accurate estimates for the remainder of the project.

8 **For task-level estimates, have the people who will do the work create the estimates.**

9 **Compare actual performance with estimated performance** to improve your individual estimates over time.

10 **Don't shorten a schedule estimate without increasing the effort estimate.**

– FROM *SOFTWARE ESTIMATION: DEMYSTIFYING THE BLACK ART*

BARBARA GOMOLSKI

# Are We Multitasking Ourselves Into Chaos?

INFORMATION TECHNOLOGY professionals generally eat their own dog food. That is, as a group, we practice what we preach. Go to any place where IT people gather, and you'll see the latest and greatest in communications devices — phones, pagers and various input/output hardware.

I have always been of two minds, though, when it comes to the "always on/always available" issue. On the one hand, I have come to rely on Wi-Fi in airports. It has given me the ability to quickly download my e-mail before boarding a plane, thereby making the flight much more productive.

On the other hand, I have resisted using a BlackBerry or similar device, even though colleagues have assured me that I will love it once I give it a try.

Here's the quandary: I already feel that I am in touch so much of the time. Am I really missing out by being out of touch while I walk from my car to the office, or in a taxi on the way to a hotel? Do people really need access to me when I'm in line at the grocery store?

**BARBARA GOMOLSKI**, a former *Computerworld* reporter, is a vice president at Gartner Inc., where she focuses on IT financial management. Contact her at **barbgomolski@yahoo.com**.

There is some scientific evidence that my resistance to being "always on" is not just based on my own stubborn streak. Nobel Prize-winning behaviorist Herbert A. Simon revolutionized that field with his notion of bounded rationality. Bounded rationality states that the world is so large and complex, we don't have the capacity to understand everything. Simon theorized that the nature of the human mind actually limits our ability to be rational.

In other words, because of the great complexity around us, we make less-than-perfect decisions — decisions that are bounded by our own inability to consider an infinite number of factors.

It's kind of like when you are shopping for a major purchase, like a car. You do copious amounts of research, but at some point you make your decision based on the information you have on hand. You may not have made the perfect decision, but it was the best you could do while still juggling other commitments and responsibilities.

But where are the boundaries? I've noticed lately that it seems to have become quite acceptable to send instant messages to others in the middle of meetings. So, in addition to listening to multiple speakers at these corporate get-togethers, we now have to juggle instant message input from those same colleagues. Inevitably, during such a meeting someone will be asked a question, and it's apparent that he hasn't been paying attention to the speaker. Rather, he's been reading and responding to comments about said speaker or some other topic entirely.

Let's examine another common IT tableau. Many hard-working IT professionals attend conferences. At these events, attendees are often given the opportunity to sit in on as many as six or seven speaker sessions per day on a variety of complex topics. Attendance at these events often requires travel on the part of the IT employee and an expense of several thousand dollars on the part of the IT professional's employer.

Yet, in spite of the great deal of time and expense associated with this activity, it's becoming common to see half the audience typing away on their computer screens while purportedly listening to the speaker. Since many of these events are now set up with wireless access, attendees can be connected to their offices during sessions.

Now, it's certainly possible that the dedicated IT professionals are using their PCs to take notes. My own informal survey suggests, however, that this is rarely the case. Rather, most of the screens I've eyeballed show that their owners are answering e-mail, working on projects or even playing solitaire.

There are two issues here: First, there's an ethical one. Is it fair to attend a conference (at significant expense to an employer) and not devote adequate attention to the content? Most would say no.

Second, is it really possible to multitask effectively enough to pay attention to a speaker while participating in one or several e-mail or IM dialogues as well? Perhaps it is, but my gut tells me that bounded rationality kicks in at some point.

Are we multitasking ourselves into chaos? Are we doing so many things at once that we do none well? Or am I just missing some genetic mutation that enables some folks to thrive amid chaos? ▸

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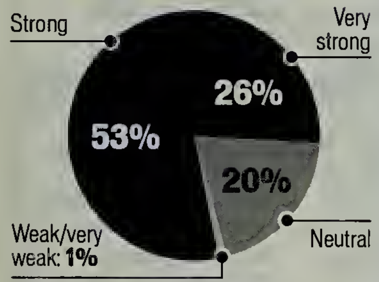
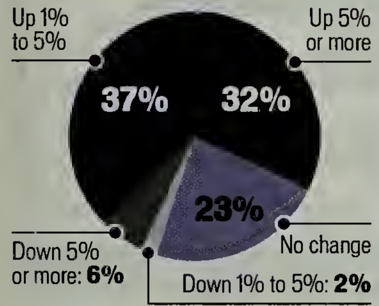
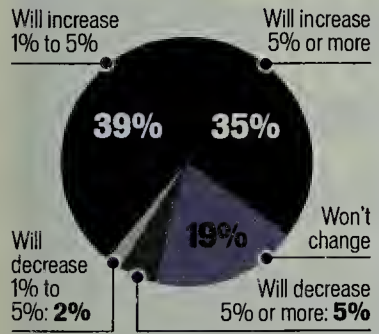


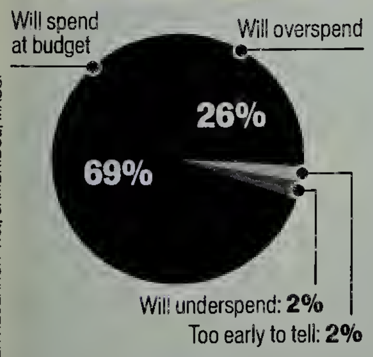
**How does your current IT spending compare with IT spending at this time last year?**



**How will your IT spending three business quarters from now compare with your current IT spending?**



**Looking ahead to the end of the year, how will your actual IT spending compare with your IT budget?**



Percentages don't equal 100 because of rounding.

**BASE:** 100 CIOs at North American companies, surveyed in February and March 2006

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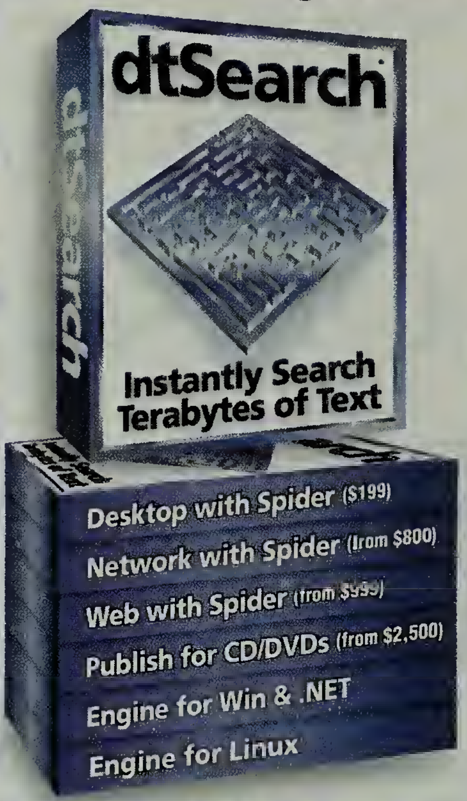
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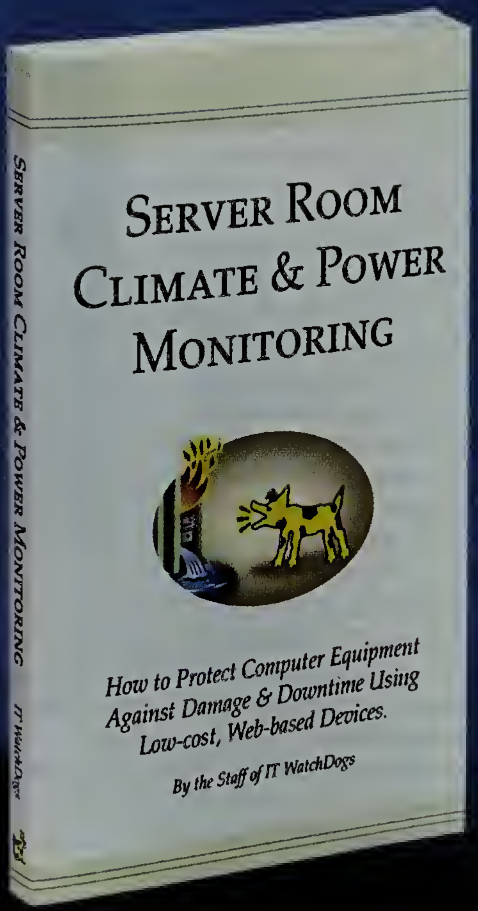
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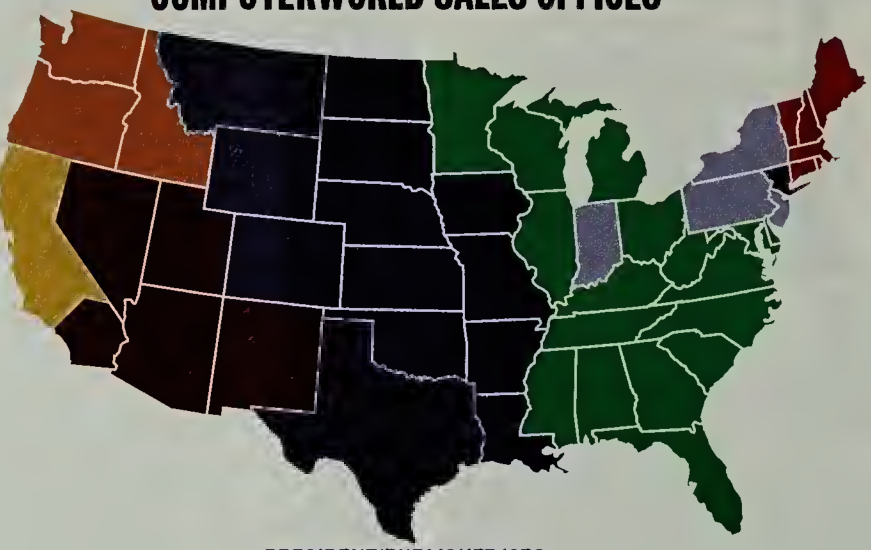

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# Dell Opteron

Company officials said the decision to embrace Opteron is part of a wider effort by the hardware vendor to reinvigorate its revenue growth and its overall business model in response to competitive gains made at Dell's expense by some of its rivals.

"The competitive environment has been more intense than we had planned for or understood," Dell CEO Kevin Rollins said during a conference call. He added that the company's attempt over the past year to grow revenue and increase its profit levels at the same time had backfired, opening the door for rivals such as Hewlett-Packard Co. to take business from Dell.

In addition to embracing Opteron, Dell said it is spending more than $100 million to improve its sales and customer service operations and is accelerating plans to reduce its annual costs by $3 billion. But it was the Opteron announcement that drew the most attention from users and analysts.

"It's about damned time," said Charles King, an analyst at Pund-IT Inc. in Hayward, Calif. "It has been clear that given the success of Opteron, business computing users want choice. They're not ready for a world where Intel is inside everything."

## A Hard Lesson

What Dell found, King said, is that many users were choosing applications known to perform well on Opteron-based servers — leaving it unable to compete for their business. He added that for an IT vendor, "it's a mistake to let your customers have an excuse to talk to your competitors."

Charley Newsom, director of product development at Kiosk Information Systems Inc. (KIS) in Louisville, Colo., said that although the self-serve kiosk vendor isn't a large server buyer, he's happy to see that Dell plans to add an Opteron option. Newsom added that he would like to see AMD chips incorporated throughout Dell's product lines, including its desktop and laptop PCs.

KIS uses desktops, mostly from Dell, inside its kiosks, and Newsom said it would welcome the opportunity to be able to put AMD processors in those machines. "The performance is usually better [than with Intel chips], and the price is less," he said.

### Downbeat Dell

- The most recent quarter was the second in the past three in which Dell's earnings dropped year over year.
- The company projected that its second-quarter results will be similar to the first-quarter numbers it reported.
- CEO Kevin Rollins said revenue growth resulting from Dell's new initiatives "will not be accomplished in just one or two quarters."

Intel Corp.'s processors are struggling to match Opteron's performance in four-way servers, said Nathan Brookwood, an analyst at Insight64 in Saratoga, Calif. As a result, "Dell is virtually not a player in that segment," he said, adding that four-way boxes account for 20% to 25% of server market revenue overall. Dell officials "concluded that they couldn't walk away from that business anymore," Brookwood said.

Dell softened its Intel-only position in March when it acquired Alienware Corp., a maker of high-end gaming PCs that run on both Intel and AMD chips. Last week, Dell said the upcoming Opteron-based servers will be offered as alternatives to systems built around Intel's new Woodcrest chip, which is due to be formally launched in June.

Hector Ruiz, AMD's CEO, credited corporate adoption of Opteron-based systems for Dell's decision, which he said should give the chip a further boost in the market. "Dell has a very strong footprint in the enterprise, and they are the No. 1 PC company in the world, and all of that is going to validate the capability of Opteron," Ruiz said.

In recent quarters, though, Dell "has been constantly struggling to meet growth expectations," said Nicole D'Onofrio, an analyst at Current Analysis Inc. in Sterling, Va. That was again the case in the company's first quarter, which ended May 5.

Dell reported first-quarter net income of $762 million, down 18% from $934 million in the same quarter a year earlier. Revenue totaled $14.2 billion, up 6% year over year from $13.4 billion ▸

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*Ames writes for the IDG News Service. Computerworld's Patrick Thibodeau contributed to this story.*

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*Continued from page 1*

# NetWeaver

requirements and costs of upgrading to mySAP ERP 2005 from SAP products that don't use NetWeaver remain unclear.

Stanley Ezzell, vice president of strategic initiatives at Wellborn Cabinet Inc., a furniture maker in Ashland, Ala., said he fears that his company will lose internal changes made to its SAP R/3-based applications if it upgrades to the next-generation tools.

"What NetWeaver really means to the R/3 customer, I don't know," he said. Ezzell was also unclear about just what migration path Wellborn will have to take to if it chooses to upgrade to mySAP ERP 2005.

"For me to go and say to my company, 'We've spent millions on this, and guess what, we'll spend more millions for that,' I might be calling looking for another job," he said. For now, Ezzell plans to hold off making any moves until SAP's plans become clearer.

Such an upgrade could be quite expensive for users of older SAP products like R/3, said David Dobrin, an analyst at B2B Analysts Inc. in Cambridge, Mass.

Because mySAP ERP 2005 requires NetWeaver to function, many customers will have to pay a premium to upgrade from older SAP applications, he said.

SAP executives have said that they won't force any customers to use NetWeaver and noted that it's an open, standards-based architecture.

Aaron Nichols, a general manager of IT at Canada Post Corp. in Ottawa, said he's concerned that NetWeaver brings SAP into new businesses, such as Web services and enterprise application integration. Canada Post has used middleware from BEA Systems Inc. to support its R/3 ERP software for five years.

Nichols is considering an upgrade to mySAP but fears that such a move will require the use of both the BEA middleware and NetWeaver.

"I worry that when we upgrade, [Canada Post will] have to contend with both tools and my support costs will rise. I don't want to support two [products] that offer the same functionality," he said.

Clothing retailer Chico's FAS Inc. in Fort Myers, Fla., will retain Microsoft .Net and other infrastructure technologies after it upgrades to SAP for Retail, which will also require NetWeaver, from a variety of older business applications, said CIO Gary King.

The company plans to roll out SAP for Retail by year's end, but it expects to use the NetWeaver technology only to support that application — a costlier but more functional solution than using its other capabilities, King said.

At the conference, SAP CEO Henning Kagermann acknowledged that some SAP customers will support multiple technologies. "We said you can develop in a .Net environment for cases where people invested in .Net and didn't want to retrain," Kagermann said in an interview. Though he argued that NetWeaver supports non-SAP technologies, for some users, "you can't solve everything in life," he said.

In the long run, said Matthew Rickard, a director of groups and chapters at the Americas' SAP Users' Group, NetWeaver will become a fact of life for SAP customers.

"All our members at some point in time are going to have go to the ESA" if they continue using SAP products, Rickard said, referring to SAP's Enterprise Services Architecture, whose key component is NetWeaver. "I don't think there is anyone who doesn't believe they aren't going there."

### New From SAP

- The creation of **a compliance unit** to use technology acquired from Virsa Systems
- An appliance that **speeds business intelligence operations** by a factor of up to 200
- A plan to invest $125 million in the development of **third-party NetWeaver tools**
- **Project Muse**, an interface that will let users access mySAP 2005 from a desktop browser or mobile client

Rickard, also special projects manager at New Brunswick Power Holding Corp. in Fredericton, said that NetWeaver can deliver long-term benefits to users. ▸

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FRANK HAYES ■ FRANKLY SPEAKING

# Not Dead Yet

IS JAVA DEAD? Come on, seriously — why else would Sun Microsystems be offering it up to the open-source crowd? (See story, page 1.) A decade ago, Java was the hottest, most exciting thing in IT, a certified Windows-killer that was going to wipe out Microsoft's monopoly and revolutionize the way software was made, distributed and run. Today? Today, Java is old hat. It's been eclipsed by open-source, the *new* hottest thing in IT that's going to wipe out Microsoft's monopoly and revolutionize the way software is made, distributed and run.

Actually, based on the hype, this sounds like a perfect match.

Funny thing about Java: It failed as a Windows-killer because in its early days, most PCs didn't have the processing power to run programs written in a byte-code language with as much responsiveness as native applications. And it didn't help that most network connections were too limited to let users download full-blown applications every time they were needed.

Now PCs have the juice and the broadband connections. But Java has been pigeonholed as a language for Web applets and back-end processing. And the buzz is long gone. Conventional wisdom says Java does a nice job in its niche, but it'll never take on the world again.

So Sun is putting Java out to open-source pasture. After all those years of developing it, promoting it, enhancing it and defending it from the corruption of Microsoft's incompatibilities, Sun will soon leave Java in the hands of a bunch of kids whose pay comes in the form of admiration from, um, other kids.

If that's not death for a onetime worldbeater, what is it?

Maybe it's Java's resurrection.

Look, Sun has clearly run out of ideas for Java. Back in the day, the ideas were endless. It was "write once, run anywhere," Java as the universal desktop, Java as the perfect Internet language and, of course, Java as a great loss-leader for selling more Sun servers.

Today, Java is a perfectly respectable language for back-end processes. But all the really interesting ideas come from the people using it. Sun's full attention is directed toward keeping itself above water.

What happens if a lot more people start coming up with ideas for Java? And not just what they can do *with* Java, but also what they can do *within* Java? That suddenly becomes possible once Java goes open-source. Then Java can be crammed into places it never fit before. Stretched in ways that weren't possible before. Lightened. Hardened. Repurposed. Reimagined. Refactored. Rebuilt.

And, yes, screwed up. Sure, it'll happen. There *will* be incompatible versions — probably lots of them. It's inevitable, once anyone can change the Java source code.

That worries some Java users. But it shouldn't. They'll still be able to choose a widely used, highly standardized Java, just as they always have. If there are another thousand one-off versions floating around the Internet, not to worry — no one has to use them.

In fact, that'll be a much less risky situation for Java users than we had in the late 1990s, when Hewlett-Packard was writing its own Java clone and Sun sued Microsoft for making its Windows version of Java incompatible with Sun's original. Fragmentation? Incompatability? Been there, done that. Java survived.

And once Java is freed from vendors' political jockeying and Sun's resource limitations, maybe we'll see the return of some of those original Java ideas. Universal desktop? Write once, run anywhere? Sun couldn't make those a reality. Now the hordes of open-source developers will get their shot.

Even if they get it wrong, we should see some very interesting failures. And if they get it right? We'll all get to leverage their success.

Yes, Java has reached the end of its useful life for Sun. Java won't sell anymore servers or feed Sun's Windows-bashing. Now the smartest thing Sun can do is to open-source it, and fast. That's when the Java excitement can begin all over again.

Is Java dead?

Not anymore. ▸

**FRANK HAYES.** *Computerworld's* senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com.**

## Right on Schedule

Pilot fish is vetting scheduling software and sets up a demo with the vendor whose product looks the most promising. But to his surprise, a week before the appointment, the vendor's rep shows up. It's a simple mistake; the rep misread his appointment calendar. But since I'm here, can I do the demo anyhow? he asks. "I told him it's fine with me," says fish, "but I don't know how to explain to my co-workers that a vendor selling scheduling software showed up a week early. He smiled, apologized and showed up the next week – as scheduled."

SHARK TANK

## 'speCIALISt'

**User complains that she's not receiving some really important e-mails from the HR group, which is recruiting a new employee for the marketing department. "Even asking one of her co-workers to forward the HR e-mail had failed," says fish. "But when I looked in her deleted-items folder, I found all the missing e-mail. The user had created a rule to automatically delete spam with words like 'Viagra' and 'Cialis' in the subject line. The HR e-mail had the subject 'Internal Job Opening: Marketing Specialist.'"**

## That Doesn't Help

**Frantic vice president calls IT manager pilot fish – he's trying to save a presentation from the network to a USB thumb drive for a ready-to-start board meeting, and nothing's working. It doesn't take fish long to find out why. "The thumb drive is jammed into the network port," reports fish. "I unplug it, put it into the USB slot, then plug the network cable back in, and the presentation is downloaded in seconds and stored. When I ask why the VP put the USB drive into the Ethernet port, he responds that he wanted to download the file from the network, so he put the key into the network port to speed up the process."**

## Too Much

**Trouble ticket submitted to Level 2 support pilot fish: "Keyboard needs replacing. It is inadequate as it has too many functions."**

## Bug, Redefined

**This pilot fish sits in on a vendor's presentation about the features of an upcoming product release. "At the end of the presentation, the floor was opened for questions," says fish. "The vendor was asked whether a bug in the integration with another of the vendor's products had been fixed. That integration isn't officially supported – meaning it may or may not work. Hedging his bets, the presenter described how it should work and then summarized that 'since it was never tested, it's not a bug.'"**

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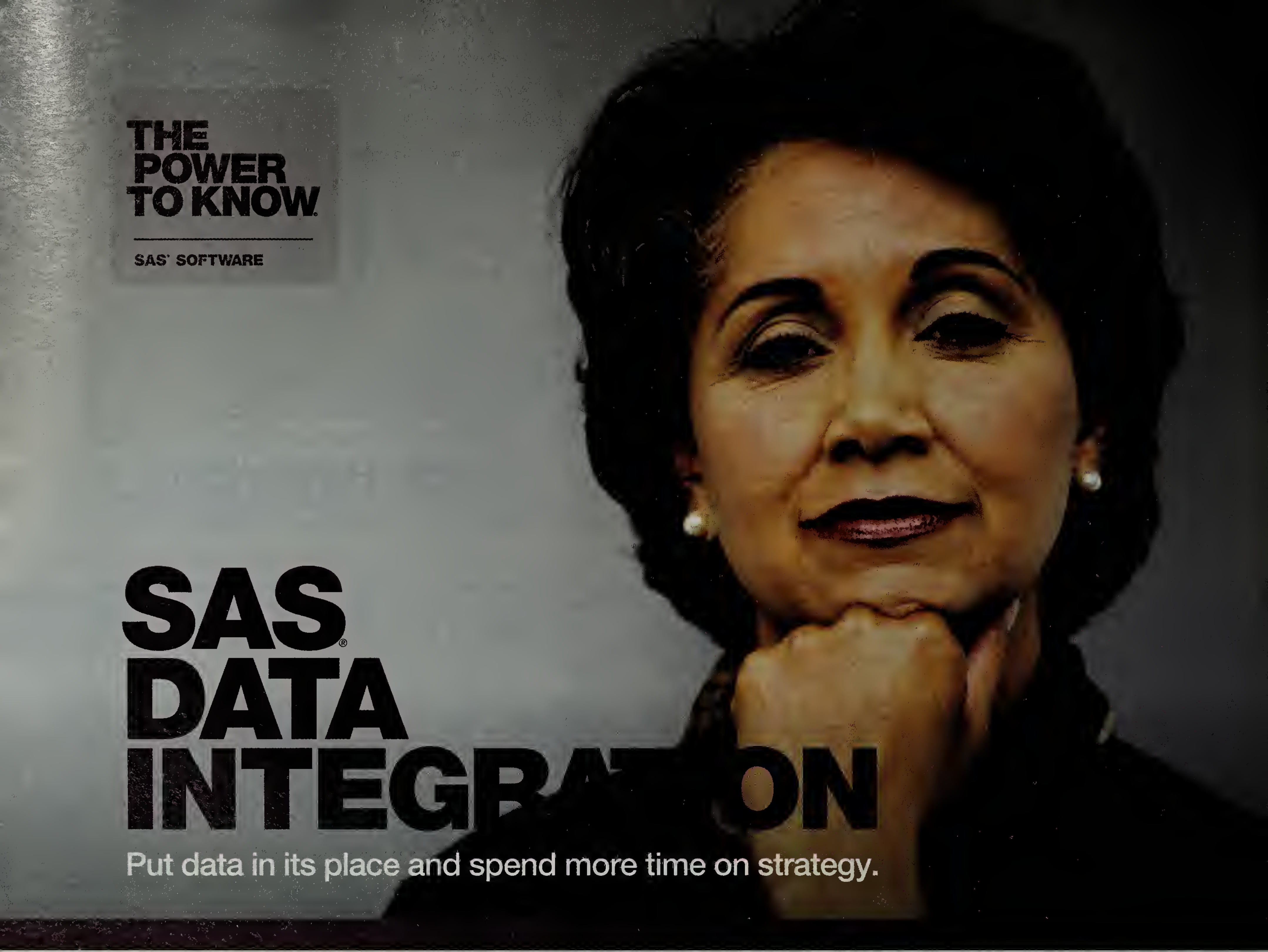
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